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Division of Commercial Fisheries
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Abundance, Age, Sex, and Size Statistics for Pacific Salmon in Bristol Bay, 1987

by
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and
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State of Alaska
Steve Cowper, Governor

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ABSTRACT

Abundance, age, sex, and size data are summarized for commercial catches and spawning escapements of Pacific salmon (*Oncorhynchus*) in Bristol Bay in 1987. Age, sex, and size data for sockeye salmon (*O. nerka*) were estimated with stratified systematic sampling programs. Sockeye salmon sampled from harvests were assigned to their river of origin using age and sex composition data so that estimates of the return for each river could be made. Similar sampling efforts for the other salmon species were limited. The total salmon catch in Bristol Bay in 1987 was 17,703,660 fish. Sockeye salmon predominated (90.7%) in the catch followed by chum salmon (8.5%), chinook salmon (0.4%), and coho (0.4%) salmon. The inshore return of sockeye salmon to Bristol Bay was 27,347,482 fish in 1987, of which 15,979,527 were harvested by the commercial fishery, and 11,367,955 million escaped into Bristol Bay rivers. Sockeye salmon returning to the Naknek-Kvichak District accounted for 45% of the total Bristol Bay return. Age-1.2 sockeye salmon (1983 brood year) comprised 50% of the total return, while age-1.3, -2.2, and -2.3 sockeye salmon comprised 26%, 12%, and 13% of the total return, respectively. An estimated 75,947 chinook salmon were commercially harvested in Bristol Bay in 1987. Age-1.4 chinook salmon (1981 brood year) predominated in all catches sampled. Additionally, 1,510,090 chum salmon, most of which were age-0.3 and -0.4, and 69,673 coho salmon were harvested.

KEY WORDS: Bristol Bay, Pacific salmon (*Oncorhynchus*), catch, escapement, age composition, size composition, sex composition

INTRODUCTION

The Bristol Bay Management Area includes all waters east of a line from Cape Newenham to Cape Menshikof (Figure 1) which supports harvests of all five species of Pacific salmon including the largest sockeye salmon (*Oncorhynchus nerka*) fishery in the world. Following sockeye salmon in average abundance are pink salmon (*O. gorbuscha*) during even-years, chum salmon (*O. keta*), coho salmon (*O. kisutch*), and chinook salmon (*O. tshawytscha*).

For regulation of the commercial salmon fisheries, the area is divided into five fishing districts: Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak Districts (Figure 1). Rivers which produce major salmon runs include: Kvichak, Naknek, Branch, Egegik, Ugashik, Wood, Igushik, Nuyakuk, Nushagak-Mulchatna, Snake, and Togiak Rivers. Sockeye salmon bound for Bristol Bay are also intercepted by the Japanese mothership fishery and the Alaska South Peninsula fishery.

The Alaska Department of Fish and Game (ADF&G) conducts a variety of programs that supply information used to manage district fisheries. These programs include: (1) compiling catch statistics; (2) sampling catches for age, sex, and size data; (3) counting and/or indexing major spawning escapements; (4) sampling escapements for age, sex, and size data. Data generated from these programs form the basis for the analysis of Bristol Bay salmon production which is used to establish optimum escapement goals and forecast future run sizes. This report summarizes commercial catch, escapement, age, sex, and size data for Bristol Bay Pacific salmon in 1987. Because this report is intended as a data base document, interpretation and discussion of the data are limited. Abundance, age, and size data for Bristol Bay salmon have been summarized annually in the ADF&G Technical Data report series since 1972 (McCurdy and Paulus 1972; Paulus and Nelson 1972a, 1972b; McCurdy and Schroeder 1972; Krasnowski and Randall 1975a, 1975b, 1976; Randall and Yuen 1978; Meacham and Randall 1979; Meacham and Nelson 1980; Yuen et al. 1981; Yuen and Nelson 1983, 1984a, 1984b, 1985, 1987; Yuen and Meacham 1983; Yuen et al. 1984; Yuen 1984; Yuen et al. 1986) and more recently in the ADF&G Technical Fishery report series (Yuen and Bill *In press*).

METHODS

Catch Estimation

Commercial catches in numbers of fish for Bristol Bay districts were taken from final operation reports prepared by fish processors and may differ slightly from final catch numbers that will be compiled by ADF&G, Commercial Fisheries Division, from sales receipts (fish tickets) given to fishermen by buyers at the time of delivery. The numbers of Bristol Bay sockeye salmon caught by the Japanese mothership fishery were provided by M.L. Dahlberg (National Fisheries Service, Auke Bay, Alaska, personal communication). Methods used to estimate the stock composition of sockeye catches by the Japanese mothership fishery are documented by Fredin and Worlund (1974),

Fredin et al. (1977), and Harris (1987). All sockeye salmon caught during the South Peninsula fishery (Unimak and Shumagin Islands) in June were assumed to be of Bristol Bay origin. These catch statistics were obtained from February 1988 computer summaries of sales receipts (McCullough 1988).

Escapement Enumeration

Escapements of salmon in Bristol Bay in 1987 were estimated with various enumeration methods by the Commercial Fisheries Division. Sockeye salmon escapement estimates were based on counts made from towers erected on the banks of the Kvichak, Naknek, Egegik, Ugashik, Wood, Igushik, and Togiak Rivers. Counts were made on each bank of the river for 10 min each hour. The 10-min counts were made on a set basis in which counting began on the hour for one bank and was followed by counting on the opposite bank. Each 10-min count was expanded into a hourly estimate to calculate the total daily escapement. Although counting towers were also placed on the Nuyakuk River, high waters prevented crews from seeing and counting fish after 17 July. Escapement of sockeye salmon to Nuyakuk River was subsequently estimated from aerial surveys of major spawning grounds as were escapements into the Branch and Snake Rivers as well as various rivers in the Togiak District (Russell et al. *In press*).

Side-scanning sonar, located in the lower Nushagak River, was used to estimate escapements of all five species of Pacific salmon for the entire drainage of the Nushagak River (Bue 1988). Escapement of chinook salmon into Naknek River was indexed with aerial surveys by the Sport Fish Division (Minard and Brookover *In press*).

Age, Sex, and Size Estimation

Ages for most Pacific salmon were determined by examining scales (Mosher 1968). Ages of sockeye salmon spawning in Branch River were determined from otoliths. To record ages we used European notation (Koo 1962) in which numerals preceding the decimal refer to the number of freshwater annuli and numerals following the decimal refer to the number of marine annuli. Total age from time of egg deposition (brood year) is the sum of these two numbers plus one.

Scales were collected from the left side of the fish approximately two rows above the lateral line along a diagonal row from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (INPFC 1963). Scales were mounted on gummed cards and impressions were made on cellulose acetate cards using a heated hydraulic press (Clutter and Whitesel 1956). Fish were measured to the nearest millimeter from the middle of the eye to the fork of the tail. Weights were taken to the nearest tenth of a kilogram. Sex was determined from morphometric characteristics.

Age, weight and length (AWL) data for sockeye salmon were collected from all district catches, and major escapements by personnel from the Commercial Fisheries Division. These data were also collected for:(1) chinook salmon

from catches made in Ugashik, Nushagak, and Togiak Districts, (2) coho salmon from the escapement into Nushagak River, and (3) chum salmon from catches made in Nushagak and Togiak Districts, and the Nushagak River escapement. Pink salmon were not sampled for AWL information.

Sample size goals for sockeye and chinook salmon were set at 600 for each species per strata. Goals for chum and coho salmon were set at 400 samples for each species per strata. These goals were selected so that sufficient numbers of samples were collected to simultaneously estimate the true percentage of each major age group in the strata within 5 percentage points 90% of the time based on the normal approximation of a binomial proportion (Goodman 1965, Cochran 1977). However, Thompson's (1987) work on the "worst case" parameter value for the multinomial distribution, suggests that our sample goals would result in simultaneously estimating the true percentage of each age group within 5 percentage points 95% of the time.

Catch sampling was stratified spatially by district, while escapement sampling was stratified by major drainage. The number of time strata sampled differed among fisheries and rivers. District catches of sockeye salmon were generally sampled each fishing period form 23 June to 17 July ,except when fishing periods were greater than 24 h. When this occurred, we generally sampled each district catch at least once every 3 d. For dates not sampled, the age composition of sockeye salmon harvested was assumed to be the same as that estimated for the most recent date. Chinook and chum salmon catches were sampled less frequently than sockeye salmon catches. For chinook salmon catches a single time stratum was used for Ugashik and Togiak Districts, while three strata were used for the Nushagak District. For chum salmon catches three strata were used for Nushagak District and four strata for Togiak District.

Sample size goals for sockeye salmon escapements were set at 200 per day. In practice this daily goal could only be obtained during the peak of the run. Successive daily age composition estimates were compared using Chi-squared tests. Successive dates were placed in the same time stratum if significant ($P < 0.05$) differences were not found. Escapement sampling on the Nushagak River was hindered by high water, consequently samples could not be stratified by day.

Age, sex, and length data for chinook salmon escapements into Nushagak and Naknek Rivers are documented by Minard and Brookover (1988) and Minard and Brookover (*In press*). Age data for sockeye salmon caught in the South Peninsula fishery were provided by McCullough (1988). Sockeye salmon harvested by the Japanese mothership fleet were assigned ages based on the age composition to the total Bristol Bay inshore return. Immature sockeye salmon harvested in 1986 were assigned to the 1987 .3 and .4 age groups. Mature fish harvested in 1987 were assigned to the .2, .3, and .4 age groups. No sockeye salmon were assigned to the .1 age group because most sockeye salmon harvested on the high seas have spent at least 2 years at sea.

Estimation of Sockeye Salmon Catch Composition

Sockeye salmon harvested in Egegik and Ugashik Districts were assumed to be destined for the Egegik and Ugashik Rivers, respectively, and thus were combined with the corresponding escapement to calculate total return. Similarly, sockeye salmon caught in Togiak Section of Togiak District were assumed to be destined for the Togiak River and were included in that river's return estimate. Sockeye salmon harvested in other sections of the Togiak District were assumed to be returning to systems not monitored for escapement or age composition. Consequently we did not assign these catches to the Togiak River. All sockeye salmon caught in set nets fished from Igushik Beach were included within total return estimates for Igushik River. Sockeye salmon harvested in Naknek-Kvichak District were assumed to be returning to Kvichak, Branch and Naknek Rivers, while those harvested in Nushagak District were assumed to be returning to Wood, Igushik and Nushagak Rivers. Sockeye salmon caught in these districts were assigned a natal river assuming that each age group and sex by river occurred in the same proportion within the catch as it did within the combined escapement:

$$\hat{C}_{ijk} = \hat{C}_{jk} \frac{\hat{E}_{ijk}}{\sum_{i=1}^{n} \hat{E}_{ijk}}$$

where:

$\hat{C}_{ijk}$ = Estimated catch of fish from river i aged j and sexed k.

$\hat{C}_{jk}$ = Estimated district catch of fish aged j and sexed k.

$\hat{E}_{ijk}$ = Estimated escapement to river i of fish aged j and sexed k.

n = Number of rivers contributing to the mixed-stock catch.

RESULTS AND DISCUSSION

A total of 17,703,660 Pacific salmon were harvested in Bristol Bay in 1987. Sockeye salmon predominated (91%) in the catch, followed by chum salmon (8%), and chinook and coho salmon (1% combined). The 1987 salmon harvest was 17%

greater than the 20 year (1967-1986) average catch, but 14% less than the 10 year (1977-1986) average catch.

The fishing season began 1 June and ended 30 September. Districts were closed to fishing unless specifically opened by management biologists with field announcements (emergency orders) during the following periods: 16 June until 17 July in the Nushagak District; and from 23 June until 17 July in Naknek-Kvichak, Egegik, and Ugashik Districts (Table 1). Fishing before and after the dates outlined above was regulated by weekly fishing periods. Weekly fishing periods, in all areas except the Togiak River Section of the Togiak District, extended from 9:00 am Monday until 9:00 am Saturday unless modified with field announcements. In the Togiak River Section of the Togiak District weekly periods extended from 9:00 am Monday until 9:00 am Friday.

Total Bristol Bay

Sockeye Salmon

The inshore return of sockeye salmon to Bristol Bay was 27,347,482 in 1987. Of these, 15,979,527 sockeye salmon were harvested by the commercial fishery and 11,367,955 escaped into Bristol Bay rivers (Table 2). The sockeye salmon return to the Naknek-Kvichak District was estimated to be 12,230,911 or 45% of the total Bristol Bay return. This was followed, in descending order, by a return of 6,659,823 to the Egegik District (24%), 5,147,343 to the Nushagak District (19%), 2,788,152 to the Ugashik District (10%), and 521,253 to the Togiak District (2%). Age-1.2 (1983 brood year) sockeye salmon comprised half (50%) of the total return (Tables 3 and 4). Age-1.3 and -2.2 (1982 brood year) sockeye salmon comprised 37% of the return, while age-2.3 (1981 brood year) sockeye salmon comprised 13% of the return. Mean length of sockeye salmon in the total return was 536 mm and mean weight was 2.6 kg (Table 5). Females were slightly more abundant (53%) than males (47%)

Not included in estimates of inshore return were catches of Bristol Bay sockeye salmon by the Japanese mothership and the South Peninsula fisheries. The Japanese mothership fishery caught an estimated 95,000 immature sockeye salmon in 1986 and 70,000 mature sockeye salmon in 1987 which were of Bristol Bay origin (Appendix A1). This level of interception was well below that recorded for earlier years when catches of several million were common (Appendix A1). The age and size composition of these fish are unknown, consequently the age composition of the total Bristol Bay inshore return was used to assign them to brood years. In June, the South Peninsula fishery harvested 795,000 sockeye salmon of which 35% were age-1.2 and 32% were age-1.3 fish (Appendix A2). This fishery was regulated by weekly guideline harvests which totaled 635,000 sockeye salmon for South Unimak and 140,000 for Shumagin Islands. Guideline harvests are based on percentages of the preseason forecast for Bristol Bay catch, 6.8% for South Unimak and 1.5% for the Shumagin Islands.

Chinook Salmon

An estimated 75,947 chinook salmon were harvested in Bristol Bay in 1987. Most (86%) were caught in the Nushagak (47,592) and Togiak (17,618) Districts. Age-1.4 chinook salmon (1981 brood year) predominated in all catches sampled: 60% of the Ugashik District catch, 58% of the Nushagak District catch, and 65% of the Togiak District catch.

Chum Salmon

An estimated 1,510,090 chum salmon were harvested in Bristol Bay in 1987. Most were caught in the Naknek-Kvichak (440,783), Togiak (421,685), and Nushagak Districts (403,399). Catches in Nushagak and Togiak Districts were mostly comprised of age-0.3 and -0.4 chum salmon.

Coho Salmon

An estimated 69,673 coho salmon were harvested in Bristol Bay in 1987. Most were caught in Egegik (29,643), Ugashik (20,494), and Nushagak Districts (13,098). Coho salmon catches were not sampled.

Naknek-Kvichak District

A total of 5,399,885 salmon were harvested in the Naknek-Kvichak District (Table 6). Most of the catch was comprised of sockeye salmon (92%) and chum salmon (8%). Combined catches of chinook and coho salmon represented less than 1% of the total harvest. Approximately 85% of the total district harvest occurred during 6-17 July.

Sockeye Salmon

The inshore return of sockeye salmon to the Naknek-Kvichak District, which includes the district catch plus escapements to Naknek, Kvichak and Branch Rivers, was 12,230,911 fish (Table 7). Age-1.2 sockeye salmon were the dominant (71%) age group, while age-1.3 (14%) and age-2.3 (9%) sockeye salmon followed in abundance. The Naknek-Kvichak commercial catch of 4,949,015 sockeye salmon was comprised of 2,995,754 age-1.2, 1,095,930 age-1.3, 576,071 age-2.3, and 268,445 age-2.2 sockeye salmon (Table 8). Mean length of sockeye salmon harvested was 534 mm and mean weight was 2.5 kg.

An estimated 9,566,541 Kvichak River sockeye salmon returned to Bristol Bay: 3,500,661 were caught and 6,065,880 escaped to spawn (Table 9). Almost all (88%) sockeye salmon returning to the Kvichak River in 1987 were age-1.2 progeny from the 1983 brood year (Table 9). Most spawning escapement into the Kvichak River were obtained during 2-11 July. No temporal trends in age composition were observed (Tables 10 and 11). Mean length of sockeye salmon in the Kvichak River escapement was 516 mm.

Of the 295,743 sockeye salmon bound for the Branch River: 141,533 were harvested and 154,210 escaped to spawn (Table 12). Most sockeye salmon returning to the Branch River were either age-1.2 (49%) or age-1.3 (45%).

The total sockeye salmon run to the Naknek River was 2,368,627, of which 1,306,821 were harvested and 1,061,806 escaped the fishery (Table 13). Sockeye salmon returns to the Naknek River were mostly age-1.3 (47%) and age-2.3 (38%). Approximately 85% of the escapement to the Naknek River was obtained during 1-9 July (Table 14). Percentages of age-1.2 and age-2.2 sockeye salmon increased ($X^2 = 31.36$, $P < 0.005$, $DF = 1$) in the escapement after 9 July (Table 15). Mean length of sockeye salmon escaping into the Naknek River was 556 mm.

Chinook Salmon

Few chinook salmon were harvested (5,000) in the Naknek-Kvichak District. None were sampled from catches, but 559 were sampled from the spawning escapement into the Naknek River. Most sampled from Pauls, Big, and King Salmon Creeks were age-1.3 and -1.4 chinook salmon (Table 16).

Egegik District

An estimated 5,566,649 salmon were caught in the Egegik District (Table 17). Sockeye and chum salmon accounted for 97% and 3% of the total catch. Approximately 85% of the total district harvest occurred during 27 June through 13 July.

Sockeye Salmon

Catch and escapement of Egegik River sockeye salmon totaled 6,659,823 (Table 18). The 1.2-, 1.3-, and 2.2-age groups each represented 26% of the sockeye salmon return, and the 2.3-age group represented 21% of the return. The commercial fishery harvested 5,386,845 sockeye salmon in the Egegik District. Mean length of sockeye salmon in the catch was 553 mm (Table 19). Age percentages in the catch were similar (NSC) to those in the escapement (Tables 18-21). No temporal trends were observed in the catch or escapement age composition. Approximately 80% of the escapement into Egegik River was obtained during 26 June through 11 July (Table 20). Mean length of sockeye salmon in the escapement (551 mm) was similar to that in the catch (Table 21).

Ugashik District

An estimated 2,239,563 Pacific salmon were caught in the Ugashik District (Table 22). The catch was comprised of sockeye salmon (95%), chum salmon (4%), and chinook and coho salmon (1% combined). Approximately 85% of the fish were caught during 2-20 July.

Sockeye Salmon

An estimated 2,788,152 Ugashik River sockeye salmon returned to Bristol Bay: 76% were caught, and 24% escaped to spawn (Table 23). The age structure of sockeye salmon returning to Ugashik River was similar to the age structure of those returning to Egegik River. Returns to the Ugashik River were comprised of age-1.2 (23%), age-1.3 (24%), age-2.2 (21%), and age-2.3 (32%) sockeye salmon. The commercial fishery harvested 2,119,188 sockeye salmon which had a mean length of 563 mm (Table 24). An estimated 668,964 sockeye salmon escaped into the Ugashik River and 70% of them passed the tower during 15-17 July (Table 25). There were a higher (X^2 = 126.39, P < .005, DF = 1) percentage age-1.2 sockeye salmon in the escapement (36%) than in the catch (18%) (Tables 24 and 26). The mean length of sockeye salmon escaping into the Ugashik River was 548 mm.

Chinook Salmon

The commercial fishery harvested 3,733 chinook salmon in the Ugashik District. Age-1.4 (60%) and age-1.3 (26%) chinook salmon predominated in the catch (Table 27).

Nushagak District

A total of 3,716,996 salmon were caught in the Nushagak District (Table 28). The catch was comprised of 88% sockeye salmon, 11% chum salmon, and 1% chinook salmon. Approximately 85% of the total district harvest occurred during 25 June through 12 July.

Sockeye Salmon

The inshore return to the Nushagak District, which includes the district catch plus escapements to Wood, Igushik, and Nushagak Rivers, was 5,147,344 sockeye salmon (Table 29). Age-1.3 and -1.2 sockeye salmon comprised most of the return (49% and 44%). The Nushagak District catch of 3,120,516 sockeye salmon (excluding the Igushik Beach set net catch) was comprised of 1,868,374 age-1.3 and 1,051,645 age-1.2 sockeye salmon (Table 30). Mean length of sockeye salmon harvested was 553 mm, and mean weight was 2.9 kg. An additional 132,386 sockeye salmon were caught by set nets on Igushik Beach (Table 31). The predominant (71%) age of sockeye salmon harvested on Igushik Beach was 1.3 (Table 32).

Of the estimated 3,037,543 sockeye salmon bound for the Wood River: 1,700,371 were caught in the district, and 1,337,172 escaped to spawn (Table 33). Age-1.2 and -1.3 sockeye salmon comprised 63% and 30% of the return to Wood River (Table 33). Most spawning escapement into the Wood River was obtained from 30 June to 9 July (Table 34). The percentage of age-1.2 sockeye salmon in the Wood River escapement increased through time (Table 35). The percentage of age-1.2 sockeye salmon in the escapement increased from 68% for samples from 24-30 June to 77% for samples from 1-8 July (X^2 = 7.17, P < .01, DF = 1). Increases in the percentage of age-1.2 fish continued in the escapement from

1-8 July (77%) to 9-23 July (85%) (X^2 = 15.29, P < 0.005, DF = 1). Mean length of sockeye salmon in the escapement was 504 mm.

An estimated 691,891 Igushik River sockeye salmon returned to Bristol Bay: 76% were harvested, and 24% escaped into the river (Table 36). Returns to Igushik River were mostly (70%) age-1.3 sockeye salmon. Escapement into Igushik River was 169,236 sockeye salmon and was distributed throughout the season (Table 37). Temporal trends were not evident in the age composition of sockeye salmon escaping into Igushik River (Table 38). Mean length of sockeye salmon in the escapement was 551 mm.

Of the estimated 1,417,910 sockeye salmon bound for the Nushagak River: 71% were caught, and 29% escaped into the river (Table 39). Sockeye salmon returns to the Nushagak River were mostly (80%) age-1.3 fish. An estimated 388,033 sockeye salmon entered the Nushagak River with 70% of the fish passing the sonar counters between 29 June and 4 July (Table 40). Age-1.3 fish accounted for most (67%) of the escapement, and mean length of escaping fish was 550 mm (Table 41). Based on aerial surveys of major spawning grounds, an estimated 163,000 of the sockeye salmon entering the Nushagak River returned to the Nuyakuk River (Appendix A3). The remaining 225,033 sockeye salmon escaping into the Nushagak River were assumed to have spawned in the Nushagak-Mulchatna drainage.

Chinook Salmon

An estimated 47,592 chinook salmon were caught in Nushagak District (Table 42). Age group percentages in the catch were 58% age-1.4, 24% age-1.3, and 16% age-1.2 chinook salmon (Table 42). Mean length of chinook salmon in the catch was 782 mm, and mean weight was 9 kg. An estimated 84,309 chinook salmon entered the Nushagak River. The age composition of chinook salmon escaping into the river was similar to that estimated for the catch (Tables 43 and 44).

Chum Salmon

A total of 403,399 chum salmon were caught in the Nushagak District (Table 45). Age-0.4 and age-0.3 chum salmon comprised 57% and 40% of the harvest. Percentages of older chum salmon (age-0.5 and -0.4) in the catch decreased through time, while the percentage of age-0.3 chum salmon increased through time. From 1-30 June to 1-6 July the combined percentage of age-0.4 and age-0.5 decreased from 77% to 65%; while the age-0.3 percentage increased from 23% to 35% (X^2 = 9.91, P < 0.005, DF = 1). From 1-6 July to 7 July - 4 August the combined percentage of age-0.4 and age-0.5 decreased from 65% to 54%; while the percentage of age-0.3 increased form 35% to 46% (X^2 = 6.79, P < 0.010, DF = 1). Mean length of a chum salmon in the commercial catch was 570 mm, and mean weight was 3.1 kg. An estimated 147,433 chum salmon entered the Nushagak River in 1987 (Table 46). Chum salmon escapement in the Nushagak River was mostly comprised of age-0.4 (66%) and age-0.3 (33%) fish. Mean length of chum salmon in the escapement was 588 mm (Table 46).

Coho Salmon

A total of 13,098 coho salmon were caught in the Nushagak District, while an estimated 20,220 coho salmon escaped into the Nushagak River. Coho salmon harvested were not sampled, but those escaping were mostly age-2.1 (72%) and age-1.1 (24%) fish (Table 47). Mean length of a coho salmon in the escapement equaled 506 mm.

Togiak District

An estimated 780,567 salmon were caught in the Togiak District (Table 48). The catch was comprised of 54% chum salmon, 44% sockeye salmon, and 2% chinook salmon. Catches of all salmon were spread throughout the season. Salmon caught in the Togiak Section accounted for 77% (600,462) of the total district catch (Table 49), while salmon caught in Kulukak, Matogak, and Osviak Sections comprised 12%, 6%, and 5% of the district catch, respectively (Appendices A5 - A8).

Sockeye Salmon

An estimated 521,253 Togiak River sockeye salmon returned to Bristol Bay: 52% were caught, and 48% escaped into the river (Table 50). The percentages of age-1.2 (50%) and age-1.3 (45%) sockeye salmon in the return were similar. Of the 271,577 sockeye salmon harvested from the Togiak Section, 64% were age-1.3 (Table 51). Mean length of sockeye salmon in the catch was 557 mm. Escapement into Togiak Lake was estimated to be 249,685 sockeye salmon (Table 52). Daily passage past the counting towers was fairly uniform during 8 July to 1 August. The percentages of age-1.2 and age-1.3 fish escaping into Togiak River differed greatly from percentages in the district harvest ($X^2 = 936.28$, $P < 0.001$, $DF = 1$). Sockeye salmon in the escapement were mostly (71%) age-1.2, compared to those in the catch which were mostly (64%) age-1.3 (Tables 51 and 53). Mean length of sockeye salmon in the escapement was 531 mm.

Chinook Salmon

An estimated 17,618 chinook salmon were caught in the Togiak District (Table 54). Age-1.4 (65%) and age-1.3 (26%) chinook salmon predominated in the catch. Mean length of chinook salmon in the catch was 807 mm. Chinook salmon escaping into Togiak River were not sampled.

Chum Salmon

An estimated 421,685 chum salmon were caught in the Togiak District (Table 55). The 0.3- and 0.4-age groups predominated in chum salmon catch, accounting for 68% and 31% of the catch. Mean length of chum salmon in the catch was 576 mm. Chum salmon escaping into Togiak River were not sampled.

Sockeye Salmon Return From Brood Year Escapement

Escapements and returns of sockeye salmon by brood year have varied considerably from 1956-81 (years of complete data) for all eleven rivers monitored in Bristol Bay (Appendices A9-A19). These data are used to determine spawner-recruit relationships, to forecast future run sizes, and to establish spawning escapement goals (Fried 1984; Fried and Yuen 1985, 1986, 1987; Fried et al. 1988).

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TABLES AND FIGURES

Table 1. ADF&G emergency orders issued in 1987 for Bristol Bay.

Emergency Orders[a] Number	Date and Time	Opened/ Closed	Hours/Days
NAKNEK-KVICHAK DISTRICT			
AKN 20	July 9 10:00 p.m. to July 10 10:00 a.m.	Opened	12 h
AKN 22	July 10 10:00 p.m. to July 11 10:00 p.m.	Opened	24 h
AKN 24	July 11 10:00 p.m. to July 12 11:00 p.m.	Opened	25 h
AKN 25	July 12 11:00 p.m. to July 13 12:00 MN	Opened	25 h
AKN 28	July 13 12:00 MN to July 17 9:00 a.m.	Opened	3 d, 9 h
Kvichak Section Only			
AKN 05	June 22 9:00 a.m. to July 8 9:59 p.m.	Closed	16 d, 13 h
AKN 16[b]	July 8 10:00 p.m. to July 9 10:00 a.m.	Opened	12 h
AKN 18[b]	July 9 10:00 a.m. to July 9 10:00 p.m.	Opened	12 h
Naknek Section Only			
AKN 07	June 29 4:00 a.m. to June 29 2:00 p.m.	Opened	10 h
AKN 09	July 1 4:00 p.m. to July 2 2:00 a.m.	Opened	10 h
AKN 13	July 6 8:00 p.m. to July 7 8:00 a.m.	Opened	12 h
AKN 16	July 8 10:00 p.m. to July 9 10:00 a.m.	Opened	12 h
AKN 18	July 9 10:00 a.m. to July 9 10:00 p.m.	Opened	12 h
EGEGIK DISTRICT			
AKN 03 and 04[c]	June 1 9:00 a.m. to June 23 9:00 a.m.	Reduced	
AKN 06	June 27 12:00 N to June 27 12:00 MN	Opened	12 h
AKN 07	June 29 2:00 p.m. to June 30 1:00 a.m.	Opened	11 h
AKN 08	June 30 1:00 a.m. to June 30 1:00 p.m.	Opened	12 h
AKN 10	July 2 3:00 a.m. to July 2 3:00 p.m.	Opened	12 h
AKN 12	July 4 5:00 a.m. to July 4 4:00 p.m.	Opened	11 h
AKN 14	July 7 7:00 a.m. to July 7 7:00 p.m.	Opened	12 h
AKN 15	July 8 9:00 p.m. to July 9 9:00 a.m.	Opened	12 h
AKN 19	July 10 10:00 a.m. to July 10 9:00 p.m.	Opened	11 h
AKN 23	July 11 11:00 p.m. to July 12 11:00 a.m.	Opened	12 h
AKN 26	July 13 1:00 p.m. to July 13 12:00 MN	Opened	11 h
AKN 29	July 15 3:00 a.m. to July 15 2:00 p.m.	Opened	11 h
AKN 30	July 16 5:00 p.m. to July 17 9:00 a.m.	Opened	16 h
AKN 33	Aug 28 9:00 a.m. to Sept 30 12:00 MN	Closed	33 d, 15 h

-Continued-

Table 1. (p 2 of 3)

Emergency Orders[a] Number	Date and Time	Opened/ Closed	Hours/Days
UGASHIK DISTRICT			
AKN 11	July 2 2:00 a.m. to July 2 2:00 p.m.	Opened	12 h
AKN 12	July 4 4:00 a.m. to July 4 4:00 p.m.	Opened	12 h
AKN 17	July 9 8:00 a.m. to July 9 8:00 p.m.	Opened	12 h
AKN 19	July 10 9:00 a.m. to July 10 9:00 p.m.	Opened	12 h
AKN 27	July 13 12:00 N to July 13 12:00 MN	Opened	12 h
AKN 30	July 16 3:00 p.m. to July 17 3:00 a.m.	Opened	12 h
AKN 31	July 17 3:00 a.m. to July 17 9:00 a.m.	Opened	6 h
AKN 32	July 24 3:00 a.m. to July 25 9:00 a.m.	Closed	30 h
NUSHAGAK DISTRICT			
DLG 01[d]	June 1 9:00 a.m. to June 8 8:59 a.m.	Reduced	
DLG 03	June 8 9:00 a.m. to June 17 9:00 a.m.	Closed	9 d
DLG 04	June 25 1:00 a.m. to June 25 1:00 p.m.	Opened	12 h
DLG 06	June 30 4:00 p.m. to June 30 10:00 p.m.	Opened	6 h
DLG 09	July 2 6:00 a.m. to July 2 12:00 N	Opened	6 h
DLG 10	July 2 12:00 N to July 2 6:00 p.m.	Opened	6 h
DLG 11	July 3 6:00 a.m. to July 3 6:00 p.m.	Opened	12 h
DLG 12	July 6 10:30 p.m. to July 7 4:30 a.m.	Opened	6 h
DLG 13	July 7 10:30 p.m. to July 8 10:30 a.m.	Opened	12 h
DLG 14	July 8 10:30 a.m. to July 8 11:00 p.m.	Opened	12.5 h
DLG 15	July 8 11:00 p.m. to July 9 11:00 p.m.	Opened	24 h
DLG 17	July 11 12:00 N to July 12 1:00 p.m.	Opened	25 h
DLG 20[e]	July 27 9:00 a.m. to Aug 5 11:59 a.m.	Reduced	
DLG 22	Aug 5 12:00 N to Sept 30 12:00 MN	Closed	56 d, 12 h
Nushagak Section Only			
DLG 16	July 9 11:00 p.m. to July 10 12:00 MN	Opened	25 h
DLG 18	July 12 1:00 p.m. to July 13 2:00 p.m.	Opened	25 h
DLG 19	July 13 2:00 p.m. to July 14 2:00 a.m.	Opened	12 h
DLG 19	July 15 4:00 a.m. to July 17 9:00 a.m.	Opened	2 d, 5 h
Igushik Section Only			
DLG 07	July 1 5:00 a.m. to July 1 5:00 p.m.	Opened	12 h
DLG 08	July 1 5:00 p.m. to July 2 6:00 a.m.	Opened	13 h
DLG 19	July 13 2:00 p.m. to July 18 9:00 a.m.	Closed	4 d, 9 h

-Continued-

Table 1. (p 3 of 3)

Emergency Orders[a] Number	Date and Time				Opened/ Closed	Hours/Days
TOGIAK DISTRICT						
DLG 21[g]	Aug 8	9:00 a.m.	to Aug 14	11:59 a.m.	Reduced	
DLG 23	Aug 14	12:00 N	to Sept 30	12:00 MN	Closed	47 d, 12 h
Togiak Section Only						
DLG 02[f]	June 1	9:00 a.m.	to July 23	8:59 a.m.	Reduced	
DLG 21[g]	July 23	9:00 a.m.	to Aug 8	8:59 a.m.	Extended	
DLG 21[g]	Aug 8	9:00 a.m.	to Aug 14	11:59 a.m.	Reduced	
Kulukak Section Only						
DLG 02[f]	June 1	9:00 a.m.	to July 23	8:59 a.m.	Reduced	
DLG 05	June 29	9:00 a.m.	to July 6	9:00 a.m.	Closed	7 d
DLG 21[g]	July 23	9:00 a.m.	to Aug 8	8:59 a.m.	Extended	
DLG 21[g]	Aug 8	9:00 a.m.	to Aug 14	11:59 a.m.	Reduced	

[a] Prefix code on emergency orders indicate the office where the announcements originated ("AKN" for King Salmon and "DLG" for Dillingham).

[b] Set net fishing only.

[c] Weekly period reduced by 24 h in the Egegik District to 9:00 am Tuesday to 9:00 am Saturday.

[d] Weekly period reduced by 48 h in the Nushagak District to 9:00 am Monday to 9:00 am Thursday.

[e] Weekly period reduced by 72 h in the Nushagak District to 9:00 am Monday to 9:00 am Tuesday and 9:00 am Thursday to 9:00 am Friday.

[f] Weekly period reduced by 24 h in the Togiak Section and 48 h in the Kulukak Section of the Togiak District to 9:00 am Monday to 9:00 am Thursday in the Togiak and Kulukak Sections.

[g] Weekly periodsin Togiak and Kulukak Sections of Togiak District extended to 48 h to 9:00 am Monday to 9:00 am Saturday. As of August 8 weekly periods in all sections of the Togiak District are reduced to two 24 h fishing periods, 9:00 am Monday until 9:00 am Tuesday and from 9:00 am Thursday until 9:00 am Friday.

Table 2. Sockeye salmon inshore return by river system, Bristol Bay, 1987.

SYSTEM	CATCH	ESCAPEMENT	RETURN
Kvichak River	3,500,661	6,065,880	9,566,541
Branch River	141,533	154,210	295,743
Naknek River	1,306,821	1,061,806	2,368,627
SUB-TOTAL			
NAKNEK-KVICHAK DISTRICT	4,949,015	7,281,896	12,230,911
Egegik River	5,386,845	1,272,978	6,659,823
King Salmon River		575	
SUB-TOTAL			
EGEGIK DISTRICT	5,386,845	1,273,553	6,660,398
Ugashik River	2,119,188	668,964	2,788,152
Dog Salmon River		2,075	
King Salmon River		15,855	
SUB-TOTAL			
UGASHIK DISTRICT	2,119,188	686,894	2,806,082
Wood River	1,700,371	1,337,172	3,037,543
Igushik River	522,655	169,236	691,891
Nushagak River (Total)	1,029,876	388,033	1,417,909
Snake		1,520	
SUB-TOTAL			
NUSHAGAK-IGUSHIK DISTRICT	3,252,902	1,895,961	5,148,863
Togiak Lake	271,577	249,676	521,253
Togiak River and Tributaries		28,600	
Kulukak River	45,061	37,800	
Matogak Section	14,289		
Osviak Section	8,927		
Cape Pierce Section	30		
SUB-TOTAL			
TOGIAK DISTRICT	339,884	316,076	655,960
GRAND TOTAL	16,047,834	11,454,380	27,502,214

Table 3. Sockeye salmon inshore return by age group and river system, Bristol Bay, 1987.

RIVER SYSTEM	Age Group (Numbers of Fish)												Total[a]
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	
KVICHAK RIVER			5,115	8,379,157	3,089		515,111	504,476		159,593			9,566,541
BRANCH RIVER		860	129	144,142			134,014	4,196	1,473	10,342		587	295,743
NAKNEK RIVER		619	897	159,004	6,640		1,109,396	184,107	11,620	895,247		1,097	2,368,627
NAKNEK-KVICHAK DISTRICT		1,479	6,141	8,682,303	9,729		1,758,521	692,779	13,093	1,065,182		1,684	12,230,911
EGEGIK RIVER		1,263		1,715,937	7,240		1,789,828	1,741,704	10,747	1,385,715	7,389		6,659,823
UGASHIK RIVER	45	57	9,317	627,299	5,575	1,394	672,181	578,948	3,636	887,314	1,005	1,381	2,788,152
WOOD RIVER		462	462	1,911,700			904,862	129,212		90,845			3,037,543
IGUSHIK RIVER				147,615			484,240	9,195	716	50,125			691,891
NUSHAGAK RIVER				213,121			1,132,372	7,974	15,843	48,600			1,417,910
NUSHAGAK-IGUSHIK DISTRICT		462	462	2,272,436			2,521,474	146,381	16,559	189,570			5,147,344
TOGIAK RIVER			2,275	258,510			232,228	12,899	465	14,876			521,253
GRAND TOTAL	45	3,261	18,195	13,556,485	22,544	1,394	6,974,232	3,172,711	44,500	3,542,657	8,394	3,065	27,347,483

[a] Does not include catches and escapements of sockeye salmon not sampled for age information. Sockeye catches not included are from the Togiak District: 45,061 fish from Kulukak Section, 14,289 fish from Matogak Section, 8,927 fish from Osviak Section, and 30 fish from Cape Pierce Section. Sockeye salmon escapements not included are: 575 in King Salmon River (Egegik District); 2,075 in Dog Salmon River and 15,855 in King Salmon River (Ugashik District); 1,520 in Snake River (Nushagak District); 28,600 fish in Togiak River below the tower and 37,800 fish in Kulukak River (Togiak District).

Table 4. Percentages by age group and river system of sockeye salmon returns to Bristol Bay, 1987.

	Age Group (Percent)												
RIVER SYSTEM	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
KVICHAK RIVER			.05	87.59	.03		5.38	5.27		1.67			34.98
BRANCH RIVER		.29	.04	48.74			45.31	1.42	.50	3.50		.20	1.08
NAKNEK RIVER		.03	.04	6.71	.28		46.84	7.77	.49	37.80		.05	8.66
NAKNEK-KVICHAK DISTRICT		.01	.05	70.99	.08		14.38	5.66	.11	8.71		.01	44.72
EGEGIK RIVER		.02		25.77	.11		26.88	26.15	.16	20.81	.11		24.35
UGASHIK RIVER	.00[b]	.00[b]	.33	22.50	.20	.05	24.11	20.76	.13	31.82	.04	.05	10.20
WOOD RIVER		.02	.02	62.94			29.79	4.25		2.99			11.11
IGUSHIK RIVER				21.34			69.99	1.33	.10	7.24			2.53
NUSHAGAK RIVER				15.03			79.86	.56	1.12	3.43			5.18
NUSHAGAK-IGUSHIK DISTRICT		.01	.01	44.15			48.99	2.84	.32	3.68			18.82
TOGIAK RIVER			.44	49.59			44.55	2.47	.09	2.85			1.91
GRAND TOTAL	.00[b]	.01	.07	49.57	.08	.01	25.50	11.60	.16	12.95	.03	.01	100.00

[a] Does not include sockeye catches and escapements not sampled for age information. Sockeye catches not included are from the Togiak District: 45,061 fish from Kulukak Section, 14,289 from Matogak Section, 8,927 from Osviak Section, and 30 from Cape Pierce Section. Sockeye escapements not included are: 575 in King Salmon River (Egegik District); 2,075 in Dog Salmon River and 15,855 in King Salmon River (Ugashik District); 1,520 in Snake River (Nushagak District); and 28,600 in Togiak River below the tower, and 37,800 in Kulukak River (Togiak District).

[b] Less than .01%.

Table 5. Age, sex, and size composition of sockeye salmon catch and escapement to Bristol Bay, 1987.

	Age Group												
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total[a]
Males		2,813	11,660	6,832,995	22,235	697	3,079,336	1,418,185	16,184	1,529,887	3,252	829	12,918,073
Percent		.01	.04	24.99	.08	.00[c]	11.26	5.19	.06	5.59	.01	.00	47.24
Mean Length		357	582	516	359	584	585	532	600	596	549	436	544
Std. Error			19	0[b]	4		1	1	10	1			0[b]
Sample Size		5	21	6,451	59	1	4,457	1,806	31	2,215	3	2	15,051
Mean Weight			3.62	2.19		3.01	3.46	2.41	3.85	3.35			2.66
Std. Error				.03			.04	.04		.07			.01
Sample Size			1	536		1	524	168	3	210			1,443
Females	45	448	6,535	6,723,490	309	697	3,894,895	1,754,527	28,316	2,012,770	5,142	2,236	14,429,410
Percent	.00[c]	.00[c]	.02	24.59	.00[c]	.00[c]	14.24	6.42	.10	7.36	.02	.01	52.76
Mean Length	547	17	569	501	585	589	563	518	584	574	524	529	530
Std. Error			7	0[b]			0[b]	1	7	1	13		0[b]
Sample Size	2	2	36	6,556	1	1	5,916	2,252	46	2,741	5	5	17,563
Mean Weight			2.63	2.06			2.99	2.32	3.22	2.93			2.47
Std. Error				.03			.02	.13	.14	.03			.01
Sample Size			3	442			724	175	10	294			1,648

-Continued-

Table 5. (p 2 of 2)

	Age Group												
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Both Sexes	45	3,261	18,195	13,556,485	22,544	1,394	6,974,231	3,172,712	44,500	3,542,657	8,394	3,065	27,347,483
Percent	.00[c]	.01	.07	49.57	.08	.01	25.50	11.60	.16	12.95	.03	.01	100.00
Mean Length	547	310	577	509	362	587	573	524	590	583	533	504	536
Std. Error			13	0[b]	4		0[b]	1	5	1	13		0[b]
Sample Size	2	7	57	13,007	60	2	10,373	4,058	77	4,956	8	7	32,614
Mean Weight			2.63	2.13		3.01	3.20	2.36	3.32	3.11			2.56
Std. Error				.02			.02	.08	.14	.03			.01
Sample Size			4	978		1	1,248	343	13	504			3,091

[a] Does not include catches and escapements for which age information were not collected. Harvests not included are Kulukak Section (45,061), Matogak Section (14,289), Osviak Section (8,927), and Cape Pierce Section (30) of Togiak District. Escapements not included are Togiak River below the tower (28,600), Kulukak River (37,800), Snake River (1,520), King Salmon River (575) in Egegik District, and Dog Salmon (2,075), and King Salmon (15,855) Rivers in Ugashik District.

[b] Less than .1.

[c] Less than .01.

Table 6. Commercial salmon catch by period and species, Naknek-Kvichak District, 1987.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/01-6/06	120				1				1
6/08-6/13	120			9	19	1			29
6/15	15	43	73	766	4	126			896
6/16	24			3,366	160	243			3,769
6/17	24			3,182	136	387			3,705
6/18	24			3,450	19	317			3,786
6/19	24	82	128	5,363	28	582			5,973
6/20	9			1,419	2	214			1,635
6/22	24			19,308	164	931			20,403
6/29	10	280	189	129,738	159	781			130,678
7/01-7/02	10	300	196	117,129	36	4,004			121,169
7/06-7/07	12	312	200	250,679	48	3,814			254,541
7/08-7/09	26	325	304	312,439	91	10,761			323,291
7/10	24			471,392	66	22,734			494,192
7/11	24			740,724	172	42,217			783,113
7/12	24	875	281	695,125	263	58,790			754,178
7/13	24			708,485	198	57,461			766,144
7/14	24			478,441	257	37,837			516,535
7/15	24			225,974	140	20,673			246,787
7/16	24			249,366	136	24,585			274,087
7/17	24			178,585	616	20,259			199,460
7/18	9			91,747	85	9,571			101,403
7/20	15			87,984	174	34,340			122,498
7/21	24			76,068	245	33,242			109,555
7/22	24			24,101	398	7,961		2	32,462
7/23	24			39,951	244	13,708			53,903
7/24	24			14,783	235	3,924		2	18,944
7/25	9			13,700	116	2,793			16,609
7/27-8/01	120			4,927	622	21,999		100	27,648
8/03-8/08	120			492	94	5,575		262	6,423
8/10-8/15	120			164	33	747		1,827	2,771
8/17-8/22	120			108	26	104	3	772	1,013
8/24-8/29	120			47	13	102	2	1,825	1,989
8/31-9/05	120			3				292	295
Total				4,949,015	5,000	440,783	5	5,082	5,399,885
Percent of District Catch				91.6	0.1	8.2	0.0	0.1	100.0

[a] Fishing effort represents number of drift boats and number of set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 1 for emergency order fishing periods.

Table 7. Age and sex composition of sockeye salmon inshore return to the Naknek-Kvichak District, 1987.

	Age Group									
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
CATCH										
Males		6,049	1,470,869		508,838	115,100	3,092	258,221		2,362,169
Percent		0.05	12.03		4.16	0.94	0.03	2.11		19.31
Females		92	1,524,885		587,092	153,345	3,125	317,850	457	2,586,846
Percent		0.00	12.47		4.80	1.25	0.03	2.60	0.00	21.15
Both Sexes		6,141	2,995,754		1,095,930	268,445	6,217	576,071	457	4,949,015
Percent		0.05	24.49		8.96	2.19	0.05	4.71	0.00	40.46
ESCAPEMENT										
Males	1,049		2,800,833	9,729	301,949	198,516	3,873	189,295	239	3,505,483
Percent	0.01		22.90	0.08	2.47	1.62	0.03	1.55	0.00	28.66
Females	430		2,885,716		360,642	225,818	3,003	299,816	988	3,776,413
Percent	0.00		23.59		2.95	1.85	0.02	2.45	0.01	30.88
Both Sexes	1,479		5,686,549	9,729	662,591	424,334	6,876	489,111	1,227	7,281,896
Percent	0.01		46.49	0.08	5.42	3.47	0.06	4.00	0.01	59.54
CATCH AND ESCAPEMENT										
Males	1,049	6,049	4,271,702	9,729	810,787	313,616	6,965	447,516	239	5,867,652
Percent	0.01	0.05	34.93	0.08	6.63	2.56	0.06	3.66	0.00	47.97
Females	430	92	4,410,601		947,734	379,163	6,128	617,666	1,445	6,363,259
Percent	0.00	0.00	36.06		7.75	3.10	0.05	5.05	0.01	52.03
Both Sexes	1,479	6,141	8,682,303	9,729	1,758,521	692,779	13,093	1,065,182	1,684	12,230,911
Percent	0.01	0.05	70.99	0.08	14.38	5.66	0.11	8.71	0.01	100.00

Table 8. Age, sex, and size composition of sockeye salmon commercial catch in Naknek-Kvichak District, 1987.

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 6/01-6/22								
Males	185	8,870	3,880	1,201	92	2,310		16,538
Percent	.50	24.06	10.53	3.26	.25	6.27		44.86
Mean Length	547	513	572	531	620	586		539
Std. Error	47	3	6	10		6		2
Sample Size	2	96	42	13	1	25		179
Females	92	7,022	6,652	831		5,728		20,325
Percent	.25	19.05	18.05	2.25		15.54		55.14
Mean Length	523	513	574	520		580		552
Std. Error		3	3	7		3		2
Sample Size	1	76	72	9		62		220
Both Sexes	277	15,892	10,532	2,032	92	8,038		36,863
Percent	.75	43.11	28.57	5.51	.25	21.81		100.00
Mean Length	539	513	573	527	620	582		546
Std. Error	47	2	3	6		3		1
Sample Size	3	172	114	22	1	87		399

-Continued-

Table 8. (p 2 of 10)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 2 6/29								
Males		31,046	10,349	6,563	252	8,582		56,792
Percent		23.93	7.98	5.06	.19	6.61		43.77
Mean Length		515	592	531	620	595		543
Std. Error		2	4	4		4		2
Sample Size		123	41	26	1	34		225
Mean Weight		2.15	3.12	2.57		3.21		2.54
Std. Error		.09	.22	.17		.33		.08
Sample Size		26	7	4		4		41
Females		29,027	19,940	5,301		18,678		72,946
Percent		22.37	15.37	4.09		14.40		56.23
Mean Length		507	570	524		575		543
Std. Error		2	3	5		3		1
Sample Size		115	79	21		74		289
Mean Weight		1.92	2.89	2.19		2.77		2.42
Std. Error		.06	.13	.15		.07		.05
Sample Size		15	10	2		13		40
Both Sexes		60,073	30,289	11,864	252	27,260		129,738
Percent		46.30	23.35	9.14	.19	21.01		100.00
Mean Length		511	578	528	620	581		543
Std. Error		1	2	3		2		1
Sample Size		238	120	47	1	108		514
Mean Weight		2.04	2.97	2.40		2.91		2.47
Std. Error		.06	.11	.11		.11		.05
Sample Size		41	17	6		17		81

-Continued-

Table 8. (p 3 of 10)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3 7/01-7/02								
Males		31,656	13,085	4,221		7,809		56,771
Percent		27.03	11.17	3.60		6.67		48.47
Mean Length		520	579	531		579		542
Std. Error		2	4	5		4		1
Sample Size		150	62	20		37		269
Mean Weight		2.32	3.38	3.27		3.79		2.84
Std. Error		.10	.30	.56		.51		.12
Sample Size		29	14	4		7		54
Females		24,692	18,361	6,542	211	10,552		60,358
Percent		21.08	15.68	5.59	.18	9.01		51.53
Mean Length		505	564	513	594	569		535
Std. Error		2	3	5		4		1
Sample Size		117	87	31	1	50		286
Mean Weight		2.20	3.07	1.90	3.20	3.17		2.61
Std. Error		.19	.22	.14		.22		.11
Sample Size		17	24	5	1	14		61
Both Sexes		56,348	31,446	10,763	211	18,361		117,129
Percent		48.11	26.85	9.19	.18	15.68		100.00
Mean Length		513	570	520	594	573		539
Std. Error		1	2	4		3		1
Sample Size		267	149	51	1	87		555
Mean Weight		2.27	3.20	2.44	3.20	3.43		2.72
Std. Error		.10	.18	.24		.25		.08
Sample Size		46	38	9	1	21		115

-Continued-

Table 8. (p 4 of 10)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 4 7/06-7/07								
Males		84,169	22,415	10,064	457	12,351		129,456
Percent		33.58	8.94	4.01	.18	4.93		51.64
Mean Length		520	578	525	612	591		538
Std. Error		2	4	6		6		2
Sample Size		184	49	22	1	27		283
Mean Weight		2.26	3.45	2.37		3.13		2.56
Std. Error		.05	.16	.26		.27		.05
Sample Size		29	7	6		6		48
Females		61,757	26,989	14,638	457	16,925	457	121,223
Percent		24.64	10.77	5.84	.18	6.75	.18	48.36
Mean Length		510	562	507	631	567	598	530
Std. Error		2	3	4		3		2
Sample Size		135	59	32	1	37	1	265
Mean Weight		1.96	3.04	2.01		2.90		2.34
Std. Error		.04	.18	.16		.22		.06
Sample Size		23	4	4		4		35
Both Sexes		145,926	49,404	24,702	914	29,276	457	250,679
Percent		58.21	19.71	9.85	.36	11.68	.18	100.00
Mean Length		516	569	514	622	577	598	534
Std. Error		1	3	3		3		1
Sample Size		319	108	54	2	64	1	548
Mean Weight		2.13	3.23	2.16		3.00		2.45
Std. Error		.03	.12	.14		.17		.04
Sample Size		52	11	10		10		83

-Continued-

Table 8. (p 5 of 10)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 5 7/08-7/09								
Males		80,041	22,633	9,384		23,737		135,795
Percent		25.62	7.24	3.00		7.60		43.46
Mean Length		521	579	528		588		543
Std. Error		2	5	7		5		2
Sample Size		145	41	17		43		246
Mean Weight		2.26	3.77	2.07		3.12		2.65
Std. Error		.05	.12	.19		.20		.05
Sample Size		38	12	4		11		65
Females		80,042	43,057	19,320	552	33,673		176,644
Percent		25.62	13.78	6.18	.18	10.78		56.54
Mean Length		506	564	512	585	576		535
Std. Error		2	2	4		3		1
Sample Size		145	78	35	1	61		320
Mean Weight		1.98	2.94	1.95		3.21		2.45
Std. Error		.06	.10	.08		.11		.04
Sample Size		38	12	10		12		72
Both Sexes		160,083	65,690	28,704	552	57,410		312,439
Percent		51.24	21.02	9.19	.18	18.37		100.00
Mean Length		514	569	517	585	581		538
Std. Error		1	2	4		3		1
Sample Size		290	119	52	1	104		566
Mean Weight		2.12	3.23	1.99		3.17		2.53
Std. Error		.04	.08	.08		.10		.03
Sample Size		76	24	14		23		137

-Continued-

Table 8. (p 6 of 10)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 6 7/10-7/11								
Males		382,653	100,819	27,496	2,291	36,661		549,920
Percent		31.57	8.32	2.27	.19	3.02		45.37
Mean Length		515	581	532	650	581		533
Std. Error		2	5	8		6		2
Sample Size		167	44	12	1	16		240
Mean Weight		2.25	3.50	2.44		3.17		2.55
Std. Error		.11	.26			.54		.10
Sample Size		25	9	1		2		37
Females		439,937	142,063	43,535		36,661		662,196
Percent		36.29	11.72	3.59		3.02		54.63
Mean Length		510	564	512		567		525
Std. Error		1	4	6		5		1
Sample Size		192	62	19		16		289
Mean Weight		2.05	3.03	1.77		3.38		2.32
Std. Error		.04	.17	.19		.11		.05
Sample Size		34	10	4		2		50
Both Sexes		822,590	242,882	71,031	2,291	73,322		1,212,116
Percent		67.86	20.04	5.86	.19	6.05		100.00
Mean Length		512	571	520	650	574		529
Std. Error		1	3	5		4		1
Sample Size		359	106	31	1	32		529
Mean Weight		2.14	3.23	2.03		3.28		2.42
Std. Error		.06	.15	.19		.28		.05
Sample Size		59	19	5		4		87

-Continued-

Table 8. (p 7 of 10)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 7 7/12								
Males	1,334	186,790	58,705	16,011		30,687		293,527
Percent	.19	26.87	8.45	2.30		4.41		42.23
Mean Length	572	524	569	528		569		538
Std. Error		3	5	9		8		2
Sample Size	1	140	44	12		23		220
Mean Weight		2.64	2.82	2.46		3.25		2.73
Std. Error		.11	.23			.24		.09
Sample Size		22	12	1		6		41
Females		269,512	65,376	14,676		52,034		401,598
Percent		38.77	9.40	2.11		7.49		57.77
Mean Length		506	545	511		554		519
Std. Error		2	5	8		5		2
Sample Size		202	49	11		39		301
Mean Weight		2.11	2.66	1.43		3.06		2.30
Std. Error		.08	.19			.36		.08
Sample Size		39	13	1		4		57
Both Sexes	1,334	456,302	124,081	30,687		82,721		695,125
Percent	.19	65.64	17.85	4.41		11.90		100.00
Mean Length	572	513	556	520		560		527
Std. Error		2	3	6		4		1
Sample Size	1	342	93	23		62		521
Mean Weight		2.33	2.74	1.97		3.13		2.48
Std. Error		.07	.15			.24		.06
Sample Size		61	25	2		10		98

-Continued-

Table 8. (p 8 of 10)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 8 7/13-7/14								
Males	4,530	376,011	172,150	24,916		77,014		654,621
Percent	.38	31.68	14.50	2.10		6.49		55.15
Mean Length	569	522	587	541		593		549
Std. Error	34	2	3	7		4		1
Sample Size	2	166	76	11		34		289
Mean Weight		2.47	3.62	2.74		3.38		2.89
Std. Error		.07	.11			.25		.06
Sample Size		30	11	1		5		47
Females		271,815	142,703	29,447		88,340		532,305
Percent		22.90	12.02	2.48		7.44		44.85
Mean Length		507	563	512		575		534
Std. Error		2	3	7		3		1
Sample Size		120	63	13		39		235
Mean Weight		2.05	2.93			3.01		2.47
Std. Error		.05	.08			.15		.04
Sample Size		20	16			7		43
Both Sexes	4,530	647,826	314,853	54,363		165,354		1,186,926
Percent	.38	54.58	26.53	4.58		13.93		100.00
Mean Length	569	516	576	525		583		542
Std. Error	34	1	2	5		3		1
Sample Size	2	286	139	24		73		524
Mean Weight		2.29	3.31	2.74		3.18		2.71
Std. Error		.05	.07			.14		.04
Sample Size		50	27	1		12		90

-Continued-

Table 8. (p 9 of 10)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 9 7/15-8/22								
Males	289,633	104,802	15,244			59,070		468,749
Percent	28.73	10.40	1.51			5.86		46.50
Mean Length	521	584	529			597		545
Std. Error	2	3	11			5		1
Sample Size	152	55	8			31		246
Mean Weight	2.42	3.43	2.85			3.70		2.82
Std. Error	.06	.15				.26		.06
Sample Size	30	6	1			5		42
Females	341,081	121,951	19,055		1,905	55,259		539,251
Percent	33.84	12.10	1.89		.19	5.48		53.50
Mean Length	505	562	511		610	562		525
Std. Error	2	3	12			5		1
Sample Size	179	64	10		1	29		283
Mean Weight	2.02	3.00	2.24			2.63		2.31
Std. Error	.05	.16				.25		.05
Sample Size	33	7	1			5		46
Both Sexes	630,714	226,753	34,299		1,905	114,329		1,008,000
Percent	62.57	22.50	3.40		.19	11.34		100.00
Mean Length	512	572	519		610	580		534
Std. Error	1	2	8			3		1
Sample Size	331	119	18		1	60		529
Mean Weight	2.20	3.20	2.51			3.18		2.55
Std. Error	.04	.11				.18		.04
Sample Size	63	13	2			10		88

-Continued-

Table 8. (p 10 of 10)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined								
Males	6,049	1,470,869	508,838	115,100	3,092	258,221		2,362,169
Percent	.12	29.72	10.28	2.33	.06	5.22		47.73
Mean Length	569	520	582	532	641	588		542
Std. Error	32	1	2	3		2		1
Sample Size	5	1,323	454	141	4	270		2,197
Mean Weight		2.39	3.45	2.56		3.38		2.74
Std. Error		.04	.08	.14		.13		.03
Sample Size		229	78	22		46		375
Females	92	1,524,885	587,092	153,345	3,125	317,850	457	2,586,846
Percent	.00	30.81	11.86	3.10	.06	6.42	.01	52.27
Mean Length	523	507	562	512	608	568	598	527
Std. Error		1	1	3		2		1
Sample Size	1	1,281	613	181	4	407	1	2,488
Mean Weight		2.05	2.95	1.88	3.20	3.00		2.36
Std. Error		.02	.06	.10		.09		.02
Sample Size		219	96	27	1	61		404
Both Sexes	6,141	2,995,754	1,095,930	268,445	6,217	576,071	457	4,949,015
Percent	.12	60.53	22.14	5.42	.13	11.64	.01	100.00
Mean Length	568	513	571	521	624	577	598	534
Std. Error	32	1	1	2		1		0
Sample Size	6	2,604	1,067	322	8	677	1	4,685
Mean Weight		2.22	3.18	2.21	3.20	3.17		2.54
Std. Error		.02	.05	.08		.08		.02
Sample Size		448	174	49	1	107		779

Table 9. Age and sex composition of sockeye salmon estimated catch and escapement in Kvichak River, 1987.

	Age Group						
	0.3	1.2	2.1	1.3	2.2	2.3	Total
CATCH							
Males	2,558	1,408,923		179,113	75,884	41,788	1,708,266
Percent	.03	14.73		1.87	.79	.44	17.86
Females	2,557	1,482,277		142,299	120,404	44,858	1,792,395
Percent	.03	15.49		1.49	1.26	.47	18.74
Both Sexes	5,115	2,891,200		321,412	196,288	86,646	3,500,661
Percent	.05	30.22		3.36	2.05	.91	36.59
ESCAPEMENT							
Males		2,682,874	3,089	106,287	130,879	30,634	2,953,763
Percent		28.04	.03	1.11	1.37	.32	30.88
Females		2,805,083		87,412	177,309	42,313	3,112,117
Percent		29.32		.91	1.85	.44	32.53
Both Sexes		5,487,957	3,089	193,699	308,188	72,947	6,065,880
Percent		57.37	.03	2.02	3.22	.76	63.41
CATCH AND ESCAPEMENT							
Males	2,558	4,091,797	3,089	285,400	206,763	72,422	4,662,029
Percent	.03	42.77	.03	2.98	2.16	.76	48.73
Females	2,557	4,287,360		229,711	297,713	87,171	4,904,512
Percent	.03	44.82		2.40	3.11	.91	51.27
Both Sexes	5,115	8,379,157	3,089	515,111	504,476	159,593	9,566,541
Percent	.05	87.59	.03	5.38	5.27	1.67	100.00

Table 10. Daily sockeye salmon escapement counts, Kvichak River, 1987.

Date	Daily Count	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 30	36	36	.00	.00
July 1	30,138	30,174	.50	.50
2	506,616	536,790	8.35	8.85
3	581,382	1,118,172	9.58	18.43
4	428,826	1,546,998	7.07	25.50
5	155,970	1,702,968	2.57	28.07
6	78,786	1,781,754	1.30	29.37
7	85,398	1,867,152	1.41	30.78
8	769,230	2,636,382	12.68	43.46
9	1,022,298	3,658,680	16.85	60.32
10	867,432	4,526,112	14.30	74.62
11	610,434	5,136,546	10.06	84.68
12	267,528	5,404,074	4.41	89.09
13	250,356	5,654,430	4.13	93.22
14	118,890	5,773,320	1.96	95.18
15	105,150	5,878,470	1.73	96.91
16	67,524	5,945,994	1.11	98.02
17	24,576	5,970,570	.41	98.43
18	14,592	5,985,162	.24	98.67
19	15,072	6,000,234	.25	98.92
20	12,486	6,012,720	.21	99.12
21	19,122	6,031,842	.32	99.44
22	22,950	6,054,792	.38	99.82
23	8,508	6,063,300	.14	99.96
24	2,580	6,065,880	.04	100.00

Table 11. Age, sex, and size composition of sockeye salmon escapement in Kvichak River, 1987.

	Age Group					
	1.2	2.1	1.3	2.2	2.3	Total
Sample Period 1 6/30-7/03						
Males	383,021	3,089	3,089	43,244	12,355	444,798
Percent	34.25	.28	.28	3.87	1.10	39.78
Mean Length	519	350	553	519	606	520
Std. Error	2			7	16	2
Sample Size	124	1	1	14	4	144
Females	589,975		18,533	52,511	12,355	673,374
Percent	52.76		1.66	4.70	1.10	60.22
Mean Length	511		573	523	578	515
Std. Error	1		12	6	17	2
Sample Size	191		6	17	4	218
Both Sexes	972,996	3,089	21,622	95,755	24,710	1,118,172
Percent	87.02	.28	1.93	8.56	2.21	100.00
Mean Length	514	350	570	521	592	517
Std. Error	1		10	4	12	1
Sample Size	315	1	7	31	8	362
Sample Period 2 7/04-7/05						
Males	215,282		6,426	4,820	3,213	229,741
Percent	36.81		1.10	.82	.55	39.29
Mean Length	518		526	496	623	519
Std. Error	2		9	24	13	2
Sample Size	134		4	3	2	143
Females	342,202		4,820	4,820	3,213	355,055
Percent	58.52		.82	.82	.55	60.71
Mean Length	507		518	472	517	507
Std. Error	2		7	18	55	2
Sample Size	213		3	3	2	221
Both Sexes	557,484		11,246	9,640	6,426	584,796
Percent	95.33		1.92	1.65	1.10	100.00
Mean Length	512		523	484	570	512
Std. Error	1		6	15	28	1
Sample Size	347		7	6	4	364

-Continued-

Table 11. (p 2 of 3)

	Age Group					
	1.2	2.1	1.3	2.2	2.3	Total
Sample Period 3 7/06-7/09						
Males	895,247		46,107	38,423	11,527	991,304
Percent	45.78		2.36	1.96	.59	50.69
Mean Length	522		578	543	568	526
Std. Error	2		14	10	12	2
Sample Size	233		12	10	3	258
Females	860,666		42,265	53,792	7,685	964,408
Percent	44.01		2.16	2.75	.39	49.31
Mean Length	506		530	513	578	508
Std. Error	2		10	9	13	2
Sample Size	224		11	14	2	251
Both Sexes	1,755,913		88,372	92,215	19,212	1,955,712
Percent	89.78		4.52	4.72	.98	100.00
Mean Length	514		555	525	572	517
Std. Error	1		9	7	9	1
Sample Size	457		23	24	5	509
Sample Period 4 7/10-7/13						
Males	980,182		42,463	38,924	3,539	1,065,108
Percent	49.11		2.13	1.95	.18	53.37
Mean Length	524		566	526	613	526
Std. Error	2		13	5		2
Sample Size	277		12	11	1	301
Females	838,639		17,693	56,617	17,693	930,642
Percent	42.02		.89	2.84	.89	46.63
Mean Length	505		554	517	595	508
Std. Error	1		18	5	17	1
Sample Size	237		5	16	5	263
Both Sexes	1,818,821		60,156	95,541	21,232	1,995,750
Percent	91.13		3.01	4.79	1.06	100.00
Mean Length	515		563	520	598	518
Std. Error	1		11	4	14	1
Sample Size	514		17	27	6	564

-Continued-

Table 11. (p 3 of 3).

	Age Group					
	1.2	2.1	1.3	2.2	2.3	Total
Sample Period 5 7/14-7/24						
Males	209,142		8,202	5,468		222,812
Percent	50.83		1.99	1.33		54.15
Mean Length	517		578	502		518
Std. Error	2		17	19		2
Sample Size	153		6	4		163
Females	173,601		4,101	9,569	1,367	188,638
Percent	42.19		1.00	2.33	.33	45.85
Mean Length	505		548	498	526	505
Std. Error	2		14	7		2
Sample Size	127		3	7	1	138
Both Sexes	382,743		12,303	15,037	1,367	411,450
Percent	93.02		2.99	3.65	.33	100.00
Mean Length	511		568	499	526	513
Std. Error	2		12	8		1
Sample Size	280		9	11	1	301
All Periods Combined						
Males	2,682,874	3,089	106,287	130,879	30,634	2,953,763
Percent	44.23	.05	1.75	2.16	.51	48.69
Mean Length	522	350	569	527	594	524
Std. Error	1		7	4	8	1
Sample Size	921	1	35	42	10	1,009
Females	2,805,083		87,412	177,309	42,313	3,112,117
Percent	46.24		1.44	2.92	.70	51.31
Mean Length	507		544	515	579	509
Std. Error	1		6	3	11	1
Sample Size	992		28	57	14	1,091
Both Sexes	5,487,957	3,089	193,699	308,188	72,947	6,065,880
Percent	90.47	.05	3.19	5.08	1.20	100.00
Mean Length	514	350	558	520	585	516
Std. Error	1		5	3	7	1
Sample Size	1,913	1	63	99	24	2,100

Table 12. Age and sex composition of sockeye salmon estimated catch and escapement in Branch River, 1987.

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
CATCH									
Males		64	24,789	42,505	747	306	3,189		71,600
Percent		.02	8.38	14.37	.25	.10	1.08		24.21
Females		65	24,944	41,062	874	400	2,478	110	69,933
Percent		.02	8.43	13.88	.30	.14	.84	.04	23.65
Both Sexes		129	49,733	83,567	1,621	706	5,667	110	141,533
Percent		.04	16.82	28.26	.55	.24	1920	.04	47.86
ESCAPEMENT									
Males	430		47,204	25,223	1,288	383	2,338	239	77,105
Percent	.15		15.96	8.53	.44	.13	.79	.08	26.07
Females	430		47,205	25,224	1,287	384	2,337	238	77,105
Percent	.15		15.96	8.53	.44	.13	.79	.08	26.07
Both Sexes	860		94,409	50,447	2,575	767	4,675	477	154,210
Percent	.29		31.92	17.06	.87	.26	1.58	.16	52.14
CATCH AND ESCAPEMENT									
Males	430	64	71,993	67,728	2,035	689	5,527	239	148,705
Percent	.15	.02	24.34	22.90	.69	.23	1.87	.08	50.28
Females	430	65	72,149	66,286	2,161	784	4,815	348	147,038
Percent	.15	.02	24.40	22.41	.73	.27	1.63	.12	49.72
Both Sexes	860	129	144,142	134,014	4,196	1,473	10,342	587	295,743
Percent	.29	.04	48.74	45.31	1.42	.50	3.50	.20	100.00

Table 13. Age and sex composition of sockeye salmon estimated catch and escapement to Naknek River, 1987.

	Age Group									
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
CATCH										
Males		448	37,157		287,220	38,469	2,786	213,244		579,324
Percent		.02	1.57		12.13	1.62	.12	9.00		24.46
Females		449	17,664		403,731	32,067	2,725	270,514	347	727,497
Percent		.02	.75		17.04	1.35	.12	11.42	.01	30.71
Both Sexes		897	54,821		690,951	70,536	5,511	483,758	347	1,306,821
Percent		.04	2.31		29.17	2.98	.23	20.42	.01	55.17
ESCAPEMENT										
Males	619		70,755	6,640	170,439	66,349	3,490	156,323		474,615
Percent	.03		2.99	.28	7.20	2.80	.15	6.60		20.04
Females			33,428		248,006	47,222	2,619	255,166	750	587,191
Percent			1.41		10.47	1.99	.11	10.77	.03	24.79
Both Sexes	619		104,183	6,640	418,445	113,571	6,109	411,489	750	1,061,806
Percent	.03		4.40	.28	17.67	4.79	.26	17.37	.03	44.83
CATCH AND ESCAPEMENT										
Males	619	448	107,912	6,640	457,659	104,818	6,276	369,567		1,053,939
Percent	.03	.02	4.56	.28	19.32	4.43	.26	15.60		44.50
Females		449	51,092		651,737	79,289	5,344	525,680	1,097	1,314,688
Percent		.02	2.16		27.52	3.35	.23	22.19	.05	55.50
Both Sexes	619	897	159,004	6,640	1,109,396	184,107	11,620	895,247	1,097	2,368,627
Percent	.03	.04	6.71	.28	46.84	7.77	.49	37.80	.05	100.00

Table 14. Daily sockeye salmon escapement counts, Naknek River, 1987.

Date	Daily Count[a]	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 22	60	60	.01	.01
23	24	84	.00	.01
24	0	84	.00	.01
25	0	84	.00	.01
26	0	84	.00	.01
27	216	300	.02	.03
28	186	486	.02	.05
29	24	510	.00	.05
30	30,660	31,170	2.89	2.94
July 1	265,752	296,922	25.03	27.96
2	59,190	356,112	5.57	33.54
3	15,024	371,136	1.41	34.95
4	13,980	385,116	1.32	36.27
5	33,600	418,716	3.16	39.43
6	121,608	540,324	11.45	50.89
7	193,326	733,650	18.21	69.09
8	104,520	838,170	9.84	78.94
9	86,442	924,612	8.14	87.08
10	9,888	934,500	.93	88.01
11	45,720	980,220	4.31	92.32
12	26,682	1,006,902	2.51	94.83
13	10,860	1,017,762	1.02	95.85
14	7,416	1,025,178	.70	96.55
15	5,010	1,030,188	.47	97.02
16	2,328	1,032,516	.22	97.24
17	1,082	1,033,598	.10	97.34
18	503	1,034,101	.05	97.39
19	6,000	1,040,101	.57	97.96
20	12,882	1,052,983	1.21	99.17
21	5,243	1,058,226	.49	99.66
22	3,580	1,061,806	.34	100.00

[a] Daily escapements from July 17-22 were extrapolated using two hours of counts on July 20, percentages of escapement for those two hours of the total daily escapements for July 13-16, and percentage of drop in daily escapement from July 12-16.

Table 15. Age, sex, and size composition of sockeye salmon escapement in Naknek River, 1987.

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 6/22-7/05									
Males	619	32,828	1,239	57,605	30,970	1,239	51,410		175,910
Percent	.15	7.84	.30	13.76	7.40	.30	12.28		42.01
Mean Length	322	460	351	582	470	612	589		539
Std. Error		4	11	3	4	29	3		2
Sample Size	1	53	2	93	50	2	83		284
Females		6,813		120,164	7,433	1,239	107,157		242,806
Percent		1.63		28.70	1.78	.30	25.59		57.99
Mean Length		476		563	495	566	569		561
Std. Error		5		1	7	30	2		1
Sample Size		11		194	12	2	173		392
Both Sexes	619	39,641	1,239	177,769	38,403	2,478	158,567		418,716
Percent	.15	9.47	.30	42.46	9.17	.59	37.87		100.00
Mean Length	322	462	351	569	475	589	575		552
Std. Error		4	11	1	4	21	1		1
Sample Size	1	64	2	287	62	4	256		676

-Continued-

Table 15. (p 2 of 4)

	Age Group							
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 2 7/06-7/08									
Males		16,508	2,251	75,037	20,260	2,251	72,785		189,092
Percent		3.94	.54	17.89	4.83	.54	17.35		45.08
Mean Length		465	347	595	485	606	599		570
Std. Error		8	11	3	8	32	3		2
Sample Size		22	3	100	27	3	97		252
Females		12,756		90,044	20,260	750	105,802	750	230,362
Percent		3.04		21.47	4.83	.18	25.22	.18	54.92
Mean Length		482		565	491	610	575	590	559
Std. Error		8		2	6		2		1
Sample Size		17		120	27	1	141	1	307
Both Sexes		29,264	2,251	165,081	40,520	3,001	178,587	750	419,454
Percent		6.98	.54	39.36	9.66	.72	42.58	.18	100.00
Mean Length		473	347	579	488	607	585	590	564
Std. Error		6	11	2	5	32	2		1
Sample Size		39	3	220	54	4	238	1	559

-Continued-

Table 15. (p 3 of 4)

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3 7/09-7/13									
Males		21,419	3,150	37,797	15,119		32,128		109,613
Percent		9.58	1.41	16.90	6.76		14.37		49.01
Mean Length		484	364	587	494		599		551
Std. Error		7	9	3	7		4		2
Sample Size		34	5	60	24		51		174
Females		13,859		37,798	19,529	630	42,207		114,023
Percent		6.20		16.90	8.73	.28	18.87		50.99
Mean Length		485		566	495	600	576		548
Std. Error		6		3	6		3		2
Sample Size		22		60	31	1	67		181
Both Sexes		35,278	3,150	75,595	34,648	630	74,335		223,636
Percent		15.77	1.41	33.80	15.49	.28	33.24		100.00
Mean Length		484	364	576	495	600	586		549
Std. Error		5	9	2	5		2		2
Sample Size		56	5	120	55	1	118		355

-Continued-

Table 15. (p 4 of 4)

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined									
Males	619	70,755	6,640	170,439	66,349	3,490	156,323		474,615
Percent	.06	6.66	.63	16.05	6.25	.33	14.72		44.70
Mean Length	322	468	356	589	480	608	595		554
Std. Error		4	6	2	3	23	2		1
Sample Size	1	109	10	253	101	5	231		710
Females		33,428		248,006	47,222	2,619	255,166	750	587,191
Percent		3.15		23.36	4.45	.25	24.03	.07	55.30
Mean Length		482		564	493	587	573	590	558
Std. Error		4		1	4	30	1		1
Sample Size		50		374	70	4	381	1	880
Both Sexes	619	104,183	6,640	418,445	113,571	6,109	411,489	750	1,061,806
Percent	.06	9.81	.63	39.41	10.70	.58	38.75	.07	100.00
Mean Length	322	473	356	574	486	599	581	590	556
Std. Error		3	6	1	3	19	1		1
Sample Size	1	159	10	627	171	9	612	1	1,590

Table 16. Age, sex, and size composition of chinook salmon escapement in Naknek River, 1987.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
Pauls Creek Escapement[a]						
Males	45	5	95	60	10	215
Percent	11.25	1.25	23.75	15.00	2.50	53.75
Mean Length	401	550	763	861	845	720
Std. Error	24		14	24	128	29
Sample Size	9	1	19	12	2	43
Females			65	100	20	185
Percent			16.25	25.00	5.00	46.25
Mean Length			792	843	865	828
Std. Error			9	12	22	9
Sample Size			13	20	4	37
Both Sexes	45	5	160	160	30	400
Percent	11.25	1.25	40.00	40.00	7.50	100.00
Mean Length	401	550	775	850	858	769
Std. Error	24		9	11	36	17
Sample Size	9	1	32	32	6	80
Big Creek Escapement[a]						
Males	97	188	691	368	15	1,359
Percent	3.90	7.51	27.63	14.71	.60	54.35
Mean Length	418	603	802	906	876	776
Std. Error	14	26	8	10	27	12
Sample Size	13	25	92	49	2	181
Females		22	525	541	53	1,141
Percent		.90	21.02	21.62	2.10	45.65
Mean Length		825	817	861	883	841
Std. Error		30	6	6	16	4
Sample Size		3	70	72	7	152
Both Sexes	97	210	1,216	909	68	2,500
Percent	3.90	8.41	48.65	36.34	2.70	100.00
Mean Length	418	626	808	879	881	805
Std. Error	14	27	5	6	13	7
Sample Size	13	28	162	121	9	333

-Continued-

Table 16. (p 2 of 2)

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
King Salmon Creek Escapement[a]						
Males	55	49	83	153	27	367
Percent	6.85	6.16	10.28	19.18	3.42	45.89
Mean Length	381	568	747	885	904	738
Std. Error	20	33	18	14	37	24
Sample Size	10	9	15	28	5	67
Females			38	362	33	433
Percent			4.79	45.21	4.11	54.11
Mean Length			780	860	868	854
Std. Error			21	7	21	7
Sample Size			7	66	6	79
Both Sexes	55	49	121	515	60	800
Percent	6.85	6.16	15.07	64.39	7.53	100.00
Mean Length	381	568	757	867	884	801
Std. Error	20	33	14	6	20	13
Sample Size	10	9	22	94	11	146

[a] Escapement counts are indexes from aerial surveys and do not represent the total escapement.

Table 17. Commercial salmon catch by period and species, Egegik District, 1987.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/03	24			12	25	2			39
6/04	24			11	8	2			21
6/05	24			20	46	4			70
6/06	9			10	25	7			42
6/09	15	2	34	123	45	16			184
6/10	24			314	48	21			383
6/11	24			389	93	33			515
6/12	24			676	112	46			834
6/13	9			482	205	36			723
6/16	15			21,760	167	844			22,771
6/17	24	372	165	32,879	202	1,328			34,409
6/18	24			47,764	142	1,680			49,586
6/19	24			45,188	132	1,540			46,860
6/20	9			15,341	57	648			16,046
6/25[c]	0			79		2			81
6/27	12	630	249	626,251	130	9,891	1		636,273
6/29	10	535	192	248,184	37	3,791			252,012
6/30	13	600	217	801,181	70	10,319			811,570
7/02	12	646	229	542,970	71	7,372			550,413
7/04	11	586	246	755,400	50	10,502			765,952
7/07	12			570,765	90	11,284			582,139
7/08	3			7,255	3	169			7,427
7/09	9	422	225	320,806	33	7,033			327,872
7/10	11	278	225	295,836	28	10,942			306,806
7/11	1			24,734	6	770			25,510
7/12	11	278	219	261,562	14	9,421			270,997
7/13	11	213	235	208,246	17	9,968			218,231
7/15	11	321	222	189,145	7	8,559			197,711
7/16	7	163	219	28,188	3	992			29,183
7/17	24			117,130	12	6,066			123,208
7/18	9			69,353	7	5,055			74,415
7/20	15	60		38,259	4	3,268			41,531
7/21	24			63,498	14	4,748		2	68,262
7/22	24			17,273	11	3,699		2	20,985
7/23	24			16,616	14	3,898		5	20,533
7/24	24			11,132	15	3,131		69	14,347
7/25	9			2,565	4	1,013		11	3,593
7/27	15			1,896	11	1,472		108	3,487
7/28	24			1,240	7	1,317		166	2,730
7/29	24			466	6	573		139	1,184

-Continued-

Table 17. (p 2 of 2)

Opening Period	Hours[b]	Effort[a] Drift	Set	Catch (number of fish) Sockeye	Chinook	Chum	Pink	Coho	Total
7/30	24			276	18	615		121	1,030
7/31	24			301	3	468		113	885
8/01	9			115	2	119		63	299
8/03	15			116		435		244	795
8/04	24			46		275		111	432
8/05	24			118		339		276	733
8/06	24			118		544		690	1,352
8/07	24			130		515		708	1,353
8/08	9			141		366		694	1,201
8/10	15			69	1	781		1,351	2,202
8/11	24			69	1	756		1,549	2,375
8/12	24			38		352		1,717	2,107
8/13	24			55	1	309		2,466	2,831
8/14	24			55		249		1,792	2,096
8/15	9			29	2	219		624	874
8/17	15			42		65		2,006	2,113
8/18	24			33		53		1,868	1,954
8/19	24			20		53		1,507	1,580
8/20	24			10	1	51		2,259	2,321
8/21	24			12	2	25		2,080	2,119
8/22	9			18		19		324	361
8/24	15			11	2	21		2,065	2,099
8/25	24			9		16		1,449	1,474
8/26	24			4		14		1,058	1,076
8/27	24			9		18		1,454	1,481
8/28	9			2		17		552	571
Total	1,136			5,386,845	2,004	148,156	1	29,643	5,566,649
Percent of District Catch				96.8	0.0	2.7	0.0	0.5	100.0

[a] Fishing effort represents number of drift boats and number of set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 1 for emergency fishing periods.

[c] ADF&G test-fish catch.

Table 18. Age and sex composition of sockeye salmon catch and escapement in Egegik District, 1987.

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
CATCH									
Males	1,263	747,172		630,678	553,614	3,055	462,835	1,680	2,400,297
Percent	.02	11.22		9.47	8.31	.05	6.95	.03	36.04
Females		650,548		820,066	821,200	7,497	682,485	4,752	2,986,548
Percent		9.77		12.31	12.33	.11	10.25	.07	44.84
Both Sexes	1,263	1,397,720		1,450,744	1,374,814	10,552	1,145,320	6,432	5,386,845
Percent	.02	20.99		21.78	20.64	.16	17.20	.10	80.89
ESCAPEMENT[a]									
Males		167,973	6,931	161,917	157,311		114,699	567	609,398
Percent		2.52	.10	2.43	2.36		1.72	.01	9.15
Females		150,244	309	177,167	209,579	195	125,696	390	663,580
Percent		2.26	.00[b]	2.66	3.15	.00[b]	1.89	.01	9.96
Both Sexes		318,217	7,240	339,084	366,890	195	240,395	957	1,272,978
Percent		4.78	.11	5.09	5.51	.00[b]	3.61	.01	19.11
CATCH AND ESCAPEMENT									
Males	1,263	915,145	6,931	792,595	710,925	3,055	577,534	2,247	3,009,695
Percent	.02	13.74	.10	11.90	10.67	.05	8.67	.03	45.19
Females		800,792	309	997,233	1,030,779	7,692	808,181	5,142	3,650,128
Percent		12.02	.00[b]	14.97	15.48	.12	12.14	.08	54.81
Both Sexes	1,263	1,715,937	7,240	1,789,828	1,741,704	10,747	1,385,715	7,389	6,659,823
Percent	.02	25.77	.11	26.88	26.15	.16	20.81	.11	100.00

[a] An additional 575 sockeye salmon were counted in King Salmon River, however the fish were not sampled for age.

[b] Fish present, but represent less than .01%.

Table 19. Age, sex, and size composition of sockeye salmon commercial catch in Egegik District, 1987.

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 1 6/03-6/21								
Males		22,403	41,752	4,073	3,055	2,037		73,320
Percent		13.58	25.31	2.47	1.85	1.23		44.44
Mean Length		492	541	526	596	593		529
Std. Error		5	8	8	11	21		5
Sample Size		22	41	4	3	2		72
Females		9,165	54,989	7,128	2,037	18,330		91,649
Percent		5.56	33.33	4.32	1.23	11.11		55.56
Mean Length		487	555	516	577	549		544
Std. Error		14	4	6	13	8		3
Sample Size		9	54	7	2	18		90
Both Sexes		31,568	96,741	11,201	5,092	20,367		164,969
Percent		19.14	58.64	6.79	3.09	12.35		100.00
Mean Length		490	549	520	588	553		537
Std. Error		5	4	5	8	7		3
Sample Size		31	95	11	5	20		162

-Continued-

Table 19. (p 2 of 9)

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 2 6/25-6/27								
Males	1,263	97,232	69,452	51,773		49,248		268,968
Percent	.20	15.52	11.09	8.27		7.86		42.94
Mean Length	506	520	574	529		585		547
Std. Error		2	7	4		6		2
Sample Size	1	77	55	41		39		213
Mean Weight		1.88	3.67	2.31		4.20		2.85
Std. Error		.22	.15	.10				.09
Sample Size		10	5	7		1		23
Females		82,080	121,225	88,393		65,664		357,362
Percent		13.10	19.35	14.11		10.48		57.06
Mean Length		517	574	531		570		550
Std. Error		4	3	3		5		2
Sample Size		65	96	70		52		283
Mean Weight		1.89	2.79	2.59		2.70		2.52
Std. Error		.07	.13	.36		.26		.11
Sample Size		5	11	3		5		24
Both Sexes	1,263	179,312	190,677	140,166		114,912		626,330
Percent	.20	28.63	30.44	22.38		18.35		100.00
Mean Length	506	518	574	530		577		549
Std. Error		2	3	3		4		2
Sample Size	1	142	151	111		91		496
Mean Weight		1.88	3.11	2.49		3.34		2.66
Std. Error		.13	.10	.23		.26		.07
Sample Size		15	16	10		6		47

-Continued-

Table 19. (p 3 of 9)

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 3 6/29-6/30								
Males	192,417	132,906	83,314			55,543		464,180
Percent	18.34	12.67	7.94			5.29		44.23
Mean Length	524	598	540			599		557
Std. Error	2	4	4			5		2
Sample Size	97	67	42			28		234
Mean Weight	2.36	3.51	2.50			3.81		2.89
Std. Error	.08	.24	.17			.33		.09
Sample Size	22	8	10			4		44
Females	136,874	238,042	97,200	3,967		109,102		585,185
Percent	13.04	22.68	9.26	.38		10.40		55.77
Mean Length	514	573	521	582		584		553
Std. Error	3	2	3	26		4		1
Sample Size	69	120	49	2		55		295
Mean Weight	2.06	3.00	2.10	2.64		2.86		2.60
Std. Error	.06	.09	.06			.07		.04
Sample Size	11	20	9	1		14		55
Both Sexes	329,291	370,948	180,514	3,967		164,645		1,049,365
Percent	31.38	35.35	17.20	.38		15.69		100.00
Mean Length	520	582	530	582		589		555
Std. Error	2	2	2	26		3		1
Sample Size	166	187	91	2		83		529
Mean Weight	2.24	3.18	2.28	2.64		3.18		2.73
Std. Error	.05	.11	.08			.12		.05
Sample Size	33	28	19	1		18		99

-Continued-

Table 19. (p 4 of 9)

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 4 7/02								
Males		80,110	40,550	81,100		29,670		231,430
Percent		14.75	7.47	14.94		5.46		42.62
Mean Length		521	594	536		602		550
Std. Error		3	6	3		4		2
Sample Size		81	41	82		30		234
Mean Weight		2.21	3.58	2.40		3.51		2.68
Std. Error		.10	.11	.13		.33		.07
Sample Size		12	7	12		2		33
Females		76,154	68,242	104,836		62,308		311,540
Percent		14.03	12.57	19.31		11.48		57.38
Mean Length		511	579	522		578		543
Std. Error		3	4	3		4		2
Sample Size		77	69	106		63		315
Mean Weight		1.90	2.88	3.36		3.17		2.86
Std. Error		.06	.30	1.29		.12		.44
Sample Size		9	11	15		7		42
Both Sexes		156,264	108,792	185,936		91,978		542,970
Percent		28.78	20.04	34.24		16.94		100.00
Mean Length		516	584	528		586		546
Std. Error		2	3	2		3		1
Sample Size		158	110	188		93		549
Mean Weight		2.06	3.14	2.94		3.28		2.78
Std. Error		.06	.19	.73		.13		.25
Sample Size		21	18	27		9		75

-Continued-

Table 19. (p 5 of 9)

	Age Group						
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 5 7/04								
Males	127,347	79,592	66,568		73,803			347,310
Percent	16.86	10.54	8.81		9.77			45.98
Mean Length	520	594	542		605			559
Std. Error	3	4	4		4			2
Sample Size	88	55	46		51			240
Mean Weight	2.05	3.44	2.60		3.59			2.80
Std. Error	.20	.21	.14		.11			.09
Sample Size	12	11	12		11			46
Females	96,957	96,957	115,772		96,957		1,447	408,090
Percent	12.84	12.84	15.33		12.84		.19	54.02
Mean Length	511	586	522		584		507	549
Std. Error	3	3	3		3			1
Sample Size	67	67	80		67		1	282
Mean Weight	2.31	3.16	2.11		2.87			2.59
Std. Error	.18	.07	.12		.15			.07
Sample Size	13	16	16		12			57
Both Sexes	224,304	176,549	182,340		170,760		1,447	755,400
Percent	29.69	23.37	24.14		22.61		.19	100.00
Mean Length	516	590	529		593		507	554
Std. Error	2	2	2		2			1
Sample Size	155	122	126		118		1	522
Mean Weight	2.16	3.29	2.29		3.18			2.69
Std. Error	.14	.10	.09		.10			.06
Sample Size	25	27	28		23			103

-Continued-

Table 19. (p 6 of 9)

	Age Group						
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 6 7/07-7/09								
Males	84,002	89,043	115,924		73,922	1,680	364,571
Percent	9.35	9.91	12.90		8.22	.19	40.56
Mean Length	524	594	537		595	536	560
Std. Error	3	5	4		4		2
Sample Size	50	53	69		44	1	217
Mean Weight	2.65	3.32	2.50		3.03		2.84
Std. Error	.26	.21	.13		.51		.14
Sample Size	7	13	12		7		39
Females	122,644	102,483	162,964		144,484	1,680	534,255
Percent	13.64	11.40	18.13		16.07	.19	59.44
Mean Length	513	579	523		579	522	547
Std. Error	2	3	2		3		1
Sample Size	73	61	97		86	1	318
Mean Weight	2.25	2.83	2.17		2.81		2.49
Std. Error	.21	.13	.07		.13		.07
Sample Size	11	9	18		13		51
Both Sexes	206,646	191,526	278,888		218,406	3,360	898,826
Percent	22.99	21.31	31.03		24.30	.37	100.00
Mean Length	517	586	529		585	529	552
Std. Error	2	3	2		2		1
Sample Size	123	114	166		130	2	535
Mean Weight	2.41	3.06	2.31		2.88		2.63
Std. Error	.16	.12	.07		.19		.07
Sample Size	18	22	30		20		90

-Continued-

Table 19. (p 7 of 9)

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 7 7/10-7/12								
Males		65,676	70,154	76,126		74,632		286,588
Percent		11.28	12.05	13.08		12.82		49.23
Mean Length		529	591	558		594		569
Std. Error		5	5	4		5		2
Sample Size		44	47	51		50		192
Mean Weight		2.47	3.25	2.63		3.26		2.91
Std. Error		.24	.26	.20		.29		.13
Sample Size		7	8	9		8		32
Females		37,316	73,140	114,933	1,493	68,662		295,544
Percent		6.41	12.56	19.74	.26	11.79		50.77
Mean Length		516	573	521	600	580		547
Std. Error		4	5	2		3		2
Sample Size		25	49	77	1	46		198
Mean Weight		2.87	2.97	2.45		3.00		2.76
Std. Error		1.08	.21	.24		.14		.18
Sample Size		2	10	14		10		36
Both Sexes		102,992	143,294	191,059	1,493	143,294		582,132
Percent		17.69	24.62	32.82	.26	24.62		100.00
Mean Length		524	582	536	600	587		558
Std. Error		3	3	2		3		1
Sample Size		69	96	128	1	96		390
Mean Weight		2.61	3.11	2.52		3.14		2.83
Std. Error		.42	.17	.17		.17		.11
Sample Size		9	18	23		18		68

-Continued-

Table 19. (p 8 of 9)

	Age Group						
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 8 7/13-8/27								
Males		77,985	107,229	74,736		103,980		363,930
Percent		10.17	13.98	9.75		13.56		47.46
Mean Length		523	606	545		601		574
Std. Error		3	3	5		3		2
Sample Size		48	66	46		64		224
Mean Weight		2.58	3.64	2.17		3.66		3.12
Std. Error		.15	.18	.11		.19		.09
Sample Size		13	19	6		12		50
Females		89,358	64,988	129,974		116,978	1,625	402,923
Percent		11.65	8.47	16.95		15.25	.21	52.54
Mean Length		507	576	524		574	537	543
Std. Error		3	4	2		3		1
Sample Size		55	40	80		72	1	248
Mean Weight		2.51	3.14	2.37		3.10		2.74
Std. Error		.38	.18	.21		.08		.11
Sample Size		7	6	11		15		39
Both Sexes		167,343	172,217	204,710		220,958	1,625	766,853
Percent		21.82	22.46	26.69		28.81	.21	100.00
Mean Length		514	595	532		587	537	558
Std. Error		2	3	2		2		1
Sample Size		103	106	126		136	1	472
Mean Weight		2.54	3.45	2.30		3.36		2.92
Std. Error		.21	.13	.14		.10		.07
Sample Size		20	25	17		27		89

-Continued-

Table 19. (p 9 of 9)

	Age Group							
	1.1	1.2	1.3	2.2	1.4	2.3	3.2	Total
All Periods Combined								
Males	1,263	747,172	630,678	553,614	3,055	462,835	1,680	2,400,297
Percent	.02	13.87	11.71	10.28	.06	8.59	.03	44.56
Mean Length	506	522	591	541	596	598	536	559
Std. Error		1	2	1	11	2		1
Sample Size	1	507	425	381	3	308	1	1,626
Mean Weight		2.29	3.49	2.45		3.55		2.88
Std. Error		.07	.09	.06		.13		.04
Sample Size		83	71	68		45		267
Females		650,548	820,066	821,200	7,497	682,485	4,752	2,986,548
Percent		12.08	15.22	15.24	.14	12.67	.09	55.44
Mean Length		512	575	523	584	578	523	548
Std. Error		1	1	1	18	1		1
Sample Size		440	556	566	5	459	3	2,029
Mean Weight		2.20	2.96	2.42	2.64	2.92		2.63
Std. Error		.10	.05	.18		.05		.06
Sample Size		58	83	86	1	76		304
Both Sexes	1,263	1,397,720	1,450,744	1,374,814	10,552	1,145,320	6,432	5,386,845
Percent	.02	25.95	26.93	25.52	.20	21.26	.12	100.00
Mean Length	506	517	582	531	587	586	526	553
Std. Error		1	1	1	12	1		0
Sample Size	1	947	981	947	8	767	4	3,655
Mean Weight		2.25	3.19	2.44	2.64	3.18		2.74
Std. Error		.06	.05	.11		.06		.04
Sample Size		141	154	154	1	121		571

Table 20. Daily sockeye salmon escapement counts, Egegik River, 1987.

Date	Daily Count[a]	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 23	174	174	.01	.01
24	18,786	18,960	1.48	1.49
25	5,622	24,582	.44	1.93
26	60,750	85,332	4.77	6.70
27	110,226	195,558	8.66	15.36
28	51,132	246,690	4.02	19.38
29	53,718	300,408	4.22	23.60
30	28,188	328,596	2.21	25.81
July 1	83,100	411,696	6.53	32.34
2	18,702	430,398	1.47	33.81
3	52,986	483,384	4.16	37.97
4	37,236	520,620	2.93	40.90
5	51,618	572,238	4.05	44.95
6	67,446	639,684	5.30	50.25
7	80,304	719,988	6.31	56.56
8	124,248	844,236	9.76	66.32
9	122,718	966,954	9.64	75.96
10	64,302	1,031,256	5.05	81.01
11	34,734	1,065,990	2.73	83.74
12	10,626	1,076,616	.83	84.57
13	10,842	1,087,458	.85	85.42
14	19,932	1,107,390	1.57	86.99
15	21,930	1,129,320	1.72	88.71
16	33,144	1,162,464	2.60	91.31
17	47,244	1,209,708	3.71	95.02
18	7,134	1,216,842	.56	95.58
19	20,946	1,237,788	1.65	97.23
20	9,642	1,247,430	.76	97.99
21	16,938	1,264,368	1.33	99.32
22	6,672	1,271,040	.52	99.84
23	2,154	1,273,194	.16	100.00
24	-216[b]	1,272,978	--	--

[a] An additonal 575 sockeye salmon were counted in tributaries of King Salmon River bringing the Egegik District sockeye escapement total to 1,273,553.

[b] Fish migrated downstream of tower.

Table 21. Age, sex, and size composition of sockeye salmon escapement in Egegik River, 1987.

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 1 6/23-6/28								
Males	48,227	854	35,424	30,730		15,792		131,027
Percent	19.55	.35	14.36	12.46		6.40		53.11
Mean Length	503	346	605	533		601		549
Std. Error	4	2	3	4		6		2
Sample Size	113	2	83	72		37		307
Females	14,938		53,777	22,194		24,754		115,663
Percent	6.06		21.80	9.00		10.03		46.89
Mean Length	508		592	521		590		567
Std. Error	5		2	3		3		1
Sample Size	35		126	52		58		271
Both Sexes	63,165	854	89,201	52,924		40,546		246,690
Percent	25.61	.35	36.16	21.45		16.44		100.00
Mean Length	504	346	597	528		594		557
Std. Error	3	2	2	3		3		1
Sample Size	148	2	209	124		95		578

-Continued-

Table 21. (p 2 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 2 6/29-7/03								
Males	32,178	1,238	23,824	34,963		21,658		113,861
Percent	13.59	.52	10.07	14.77		9.15		48.10
Mean Length	515	349	595	541		601		554
Std. Error	4	8	4	3		5		2
Sample Size	104	4	77	113		70		368
Females	23,515	309	39,913	29,703		29,393		122,833
Percent	9.93	.13	16.86	12.55		12.42		51.90
Mean Length	511	585	588	529		585		558
Std. Error	4		2	3		3		2
Sample Size	76	1	129	96		95		397
Both Sexes	55,693	1,547	63,737	64,666		51,051		236,694
Percent	23.53	.65	26.93	27.32		21.57		100.00
Mean Length	513	396	591	535		592		556
Std. Error	3	6	2	2		3		1
Sample Size	180	5	206	209		165		765

-Continued-

Table 21. (p 3 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 3 7/04-7/06								
Males	20,757	1,258	16,982	16,982		14,466		70,445
Percent	13.28	.80	10.87	10.87		9.26		45.07
Mean Length	512	369	608	534		601		556
Std. Error	5	9	5	6		8		3
Sample Size	66	4	54	54		46		224
Females	29,877		19,498	24,215		12,265		85,855
Percent	19.12		12.47	15.49		7.85		54.93
Mean Length	505		575	527		587		539
Std. Error	2		5	3		5		2
Sample Size	95		62	77		39		273
Both Sexes	50,634	1,258	36,480	41,197		26,731		156,300
Percent	32.40	.80	23.34	26.36		17.10		100.00
Mean Length	508	369	590	530		594		547
Std. Error	2	9	3	3		5		2
Sample Size	161	4	116	131		85		497

-Continued-

Table 21. (p 4 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 4 7/07-7/08								
Males	14,732		30,031	27,198		20,399	567	92,927
Percent	7.20		14.68	13.30		9.97	.28	45.43
Mean Length	517		604	536		605	545	570
Std. Error	5		4	4		5		2
Sample Size	26		53	48		36	1	164
Females	18,699		26,065	44,763		22,098		111,625
Percent	9.14		12.74	21.88		10.80		54.57
Mean Length	495		576	523		571		540
Std. Error	4		4	2		4		2
Sample Size	33		46	79		39		197
Both Sexes	33,431		56,096	71,961		42,497	567	204,552
Percent	16.34		27.42	35.18		20.78	.28	100.00
Mean Length	505		591	528		588	545	554
Std. Error	3		3	2		3		1
Sample Size	59		99	127		75	1	361

-Continued-

Table 21. (p 5 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 5 7/09-7/10								
Males	30,314	1,541	23,121	21,579		15,414		91,969
Percent	16.21	.82	12.36	11.54		8.24		49.18
Mean Length	515	350	596	539		595		552
Std. Error	3	7	5	4		6		2
Sample Size	59	3	45	42		30		179
Females	35,451		15,414	29,800		14,386		95,051
Percent	18.96		8.24	15.93		7.69		50.82
Mean Length	504		579	516		582		532
Std. Error	3		5	3		5		2
Sample Size	69		30	58		28		185
Both Sexes	65,765	1,541	38,535	51,379		29,800		187,020
Percent	35.16	.82	20.60	27.47		15.93		100.00
Mean Length	509	350	589	526		589		541
Std. Error	2	7	3	2		4		1
Sample Size	128	3	75	100		58		364

-Continued-

Table 21. (p 6 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 6 7/11-7/15								
Males	9,163	780	11,113	13,257		9,748		44,061
Percent	9.34	.80	11.33	13.52		9.94		44.93
Mean Length	524	366	604	540		601		563
Std. Error	4	11	4	3		4		2
Sample Size	47	4	57	68		50		226
Females	13,062		7,798	23,200	195	9,358	390	54,003
Percent	13.32		7.95	23.66	.20	9.54	.40	55.07
Mean Length	495		587	510	591	573	535	529
Std. Error	2		4	2		5	13	2
Sample Size	67		40	119	1	48	2	277
Both Sexes	22,225	780	18,911	36,457	195	19,106	390	98,064
Percent	22.66	.80	19.28	37.18	.20	19.48	.40	100.00
Mean Length	507	366	597	521	591	587	535	544
Std. Error	2	11	3	2		3	13	1
Sample Size	114	4	97	187	1	98	2	503

-Continued-

Table 21. (p 7 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 7 7/16-7/24								
Males	12,602	1,260	21,422	12,602		17,222		65,108
Percent	8.77	.88	14.91	8.77		11.99		45.32
Mean Length	519	382	593	552		597		568
Std. Error	11	11	6	8		5		4
Sample Size	30	3	51	30		41		155
Females	14,702		14,702	35,704		13,442		78,550
Percent	10.23		10.23	24.85		9.36		54.68
Mean Length	515		549	515		561		529
Std. Error	8		8	4		8		4
Sample Size	35		35	85		32		187
Both Sexes	27,304	1,260	36,124	48,306		30,664		143,658
Percent	19.01	.88	25.15	33.63		21.35		100.00
Mean Length	517	382	575	525		582		547
Std. Error	7	11	5	3		5		2
Sample Size	65	3	86	115		73		342

-Continued-

Table 21. (p 8 of 8)

	Age Group							
	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
All Periods Combined								
Males	167,973	6,931	161,917	157,311		114,699	567	609,398
Percent	13.20	.54	12.72	12.36		9.01	.04	47.87
Mean Length	512	360	601	538		601	545	557
Std. Error	2	4	2	2		2		1
Sample Size	445	20	420	427		310	1	1,623
Females	150,244	309	177,167	209,579	195	125,696	390	663,580
Percent	11.80	.02	13.92	16.46	.02	9.87	.03	52.13
Mean Length	505	585	582	520	591	580	535	545
Std. Error	1		1	1		2	13	1
Sample Size	410	1	468	566	1	339	2	1,787
Both Sexes	318,217	7,240	339,084	366,890	195	240,395	957	1,272,978
Percent	25.00	.57	26.64	28.82	.02	18.88	.08	100.00
Mean Length	509	370	591	528	591	590	541	551
Std. Error	1	4	1	1		1	9	1
Sample Size	855	21	888	993	1	649	3	3,410

Table 22. Commercial salmon catch by period and species, Ugashik District, 1987.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/02	24				16				16
6/03	24				95				95
6/04	24	5	0		98				98
6/05	24				61				61
6/08	15			6	364				370
6/09	24	23	8	63	337				400
6/10	24			124	267				391
6/11	24			191	528				719
6/12	24			155	85				240
6/15	15	70		785	224	32			1,041
6/16	24			6,248	431	151			6,830
6/17	24	127	21	8,347	613	217			9,177
6/18	24			8,282	60	195			8,537
6/19	24			8,731	96	230			9,057
6/20	9			10,674	86	223			10,983
6/22	15	236	41	5,920	102	166			6,188
6/23	9			11,900	28	402			12,330
6/26[c]	0			120					120
6/28[c]	0			709		22			731
7/01[c]	0			30					30
7/02	12	207	69	244,334	37	4,969			249,340
7/04	12	270	71	319,328	28	4,563			323,919
7/08	0			749		18			767
7/09	12	431	83	348,842	33	8,370			357,245
7/10	12	379	66	200,753	19	6,274			207,046
7/12[c]	0			324		12			336
7/13	12	287	86	334,378	23	13,092			347,493
7/16	9	230	84	77,317	11	3,134			80,462
7/17	24			172,673	26	9,544			182,243
7/18	9			53,504	8	3,082			56,594
7/20	15	100		130,225	6	7,782			138,013
7/21	24			61,635	8	5,793			67,436
7/22	24			39,656	14	5,812			45,482
7/23	24			24,389	7	5,834			30,230
7/24	3			19,505	1	3,333			22,839
7/27	15			18,161	7	3,371			21,539
7/28	24			6,792	1	5,127			11,920
7/29	24			1,425	1	1,866		2	3,294
7/30	24			1,089	2	521			1,612
7/31	24			46		17			63

-Continued-

Table 22. (p 2 of 3)

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
8/03	15			1,212	3	826		106	2,147
8/05	24			5	1	8		9	23
8/07	24			41	2			22	65
8/10	15			35				52	87
8/11	24			23		36		96	155
8/12	24			34		31		250	315
8/13	24			29		21		138	188
8/14	24			16		7		129	152
8/15	9			10				35	45
8/17	15			66		65		633	764
8/18	24			101		249	5	1,345	1,700
8/19	24			80	1	237		1,127	1,445
8/20	24	13	11	32		116		1,125	1,273
8/21	24			28		99	3	1,167	1,297
8/22	9			5		25	4	322	356
8/24	15			15		25		932	972
8/25	24			7	2	53	2	1,330	1,394
8/26	24			4		30	3	1,271	1,308
8/27	24			7	1	1		1,679	1,688
8/28	24			5		14	19	1,237	1,275
8/29	9					4		689	693
8/31	15					8	12	876	896
9/01	24	10	9			20	18	1,280	1,318
9/02	24			11		17	6	963	997
9/03	24			2		12	5	757	776
9/04	24					9	4	706	719
9/05	9							221	221
9/07	15			10		2		737	749
9/08	24							792	792
9/09	24							27	27
9/10	24							28	28

-Continued-

Table 22. (p 3 of 3)

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
9/11	24							30	30
9/12	9							43	43
9/16	24							107	107
9/18	24							75	75
9/19	9							48	48
9/22	24							19	19
9/23	24							24	24
9/24	24							11	11
9/28	15							33	33
9/29	24							10	10
9/30	24							11	11
Total	1,509			2,119,188	3,733	96,067	81	20,494	2,239,563
Percent of District Catch				94.6	0.2	4.3	0.0	0.9	100.0

[a] Fishing effort represents number of drift boats and number of set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 1 for emergency fishing periods.

[c] ADF&G test fishing catches.

Table 23. Age and sex composition of sockeye salmon catch and escapement in Ugashik District, 1987.

	Age Group												
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
CATCH													
Males			4,325	245,802		697	281,928	243,389	1,899	353,512	1,005	590	1,133,147
Percent			.16	8.82		.02	10.11	8.73	.07	12.68	.04	.02	40.64
Females			3,708	142,805		697	254,385	197,732	1,094	384,923		697	986,041
Percent			.13	5.12		.02	9.12	7.09	.04	13.81		.02	35.37
Both Sexes			8,033	388,607		1,394	536,313	441,121	2,993	738,435	1,005	1,287	2,119,188
Percent			.29	13.94		.05	19.24	15.82	.11	26.48	.04	.05	76.01
ESCAPEMENT[a]													
Males		39	102	125,692	5,575		65,281	65,420	322	75,656			338,087
Percent		.00[b]	.00[b]	4.51	.20		2.34	2.35	.01	2.71			12.13
Females	45	18	1,182	113,000			70,587	72,407	321	73,223		94	330,877
Percent	.00[b]	.00[b]	.04	4.05			2.53	2.60	.01	2.63		.00[b]	11.87
Both Sexes	45	57	1,284	238,692	5,575		135,868	137,827	643	148,879		94	668,964
Percent	.00[b]	.00[b]	.05	8.56	.20		4.87	4.94	.02	5.34		.00[b]	23.99
CATCH AND ESCAPEMENT													
Males		39	4,427	371,494	5,575	697	347,209	308,809	2,221	429,168	1,005	590	1,471,234
Percent		.00[b]	.16	13.32	.20	.02	12.45	11.08	.08	15.39	.04	.02	52.77
Females	45	18	4,890	255,805		697	324,972	270,139	1,415	458,146		791	1,316,918
Percent	.00[b]	.00[b]	.18	9.17		.02	11.66	9.69	.05	16.43		.03	47.23
Both Sexes	45	57	9,317	627,299	5,575	1,394	672,181	578,948	3,636	887,314	1,005	1,381	2,788,152
Percent	.00[b]	.00[b]	.33	22.50	.20	.05	24.11	20.76	.13	31.82	.04	.05	100.00

[a] An additional 2,075 and 15,855 sockeye salmon were counted in Dog Salmon and King Salmon Rivers, however the fish were not sampled for age.

[b] Fish present, but represent less than .01%.

Table 24. Age, sex, and size composition of sockeye salmon commercial catch in Ugashik District, 1987.

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 1 6/08-7/02										
Males	1,394	32,752	697	32,056	27,178		40,417			134,494
Percent	.45	10.68	.23	10.45	8.86		13.18			43.86
Mean Length	598	528	584	604	548		611			576
Std. Error	15	4		4	4		4			2
Sample Size	2	47	1	46	39		58			193
Mean Weight		2.19	3.01	3.58	2.60		3.88			3.13
Std. Error		.06		.20	.17		.17			.08
Sample Size		11	1	8	11		11			42
Females	1,394	20,209	697	62,718	14,634	697	71,079		697	172,125
Percent	.45	6.59	.23	20.45	4.77	.23	23.18		.23	56.14
Mean Length	550	526	589	581	524	589	584		592	571
Std. Error	18	5		2	6		2			1
Sample Size	2	29	1	90	21	1	102		1	247
Mean Weight		2.04		3.01	2.20		2.98			2.81
Std. Error		.04		.11	.14		.05			.05
Sample Size		4		18	4		19			45
Both Sexes	2,788	52,961	1,394	94,774	41,812	697	111,496		697	306,619
Percent	.91	17.27	.45	30.91	13.64	.23	36.36		.23	100.00
Mean Length	574	527	587	589	540	589	594		592	573
Std. Error	12	3		2	3		2			1
Sample Size	4	76	2	136	60	1	160		1	440
Mean Weight		2.13	3.01	3.20	2.46		3.31			2.95
Std. Error		.04		.10	.12		.07			.04
Sample Size		15	1	26	15		30			87

-Continued-

Table 24. (p 2 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 2 7/04										
Males	1,235	56,207		42,618	40,148	618	51,265			192,091
Percent	.39	17.60		13.35	12.57	.19	16.05			60.15
Mean Length	602	526		586	529	603	586			557
Std. Error	1	3		4	2		4			2
Sample Size	2	91		69	65	1	83			311
Mean Weight		2.32		3.08	2.39		3.38			2.79
Std. Error		.07		.15	.13		.27			.09
Sample Size		13		16	9		11			49
Females	618	20,383		38,912	14,206		53,118			127,237
Percent	.19	6.38		12.19	4.45		16.63			39.85
Mean Length	529	514		581	525		576			562
Std. Error		3		3	5		2			2
Sample Size	1	33		63	23		86			206
Mean Weight	2.31	2.05		3.07	2.35		2.89			2.75
Std. Error		.05		.12			.07			.05
Sample Size	1	8		12	1		17			39
Both Sexes	1,853	76,590		81,530	54,354	618	104,383			319,328
Percent	.58	23.98		25.53	17.02	.19	32.69			100.00
Mean Length	577	523		584	528	603	581			559
Std. Error	1	2		3	2		2			1
Sample Size	3	124		132	88	1	169			517
Mean Weight	2.31	2.25		3.08	2.38		3.13			2.77
Std. Error		.05		.10	.13		.14			.05
Sample Size	1	21		28	10		28			88

-Continued-

Table 24. (p 3 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 3 7/08-7/09										
Males	691	42,835		51,817	35,926	691	46,981			178,941
Percent	.20	12.25		14.82	10.28	.20	13.44			51.19
Mean Length	539	550		572	555	650	580			565
Std. Error		6		6	6		5			3
Sample Size	1	62		75	52	1	68			259
Mean Weight		3.04		3.43	2.70	4.46	3.54			3.22
Std. Error		.31		.24	.21		.18			.12
Sample Size		8		11	10	1	12			42
Females	691	31,781		34,545	40,763		62,870			170,650
Percent	.20	9.09		9.88	11.66		17.98			48.81
Mean Length	680	550		564	542		558			554
Std. Error		5		6	5		4			2
Sample Size	1	46		50	59		91			247
Mean Weight	2.91	2.67		2.59	2.48		3.05			2.75
Std. Error		.25		.15	.17		.12			.08
Sample Size	1	9		11	11		17			49
Both Sexes	1,382	74,616		86,362	76,689	691	109,851			349,591
Percent	.40	21.34		24.70	21.94	.20	31.42			100.00
Mean Length	610	550		569	548	650	567			560
Std. Error		4		4	4		3			2
Sample Size	2	108		125	111	1	159			506
Mean Weight	2.91	2.88		3.09	2.58	4.46	3.26			2.99
Std. Error		.21		.16	.13		.10			.07
Sample Size	1	17		22	21	1	29			91

-Continued-

Table 24. (p 4 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 4 7/10-7/12										
Males		26,176		23,399	25,779		25,779			101,133
Percent		13.02		11.64	12.82		12.82			50.30
Mean Length		526		597	528		604			563
Std. Error		2		4	3		4			2
Sample Size		66		59	65		65			255
Mean Weight		2.51		3.59	2.28		3.90			3.06
Std. Error		.12		.19	.17		.15			.08
Sample Size		8		13	4		11			36
Females		14,674		23,796	23,796	397	37,281			99,944
Percent		7.30		11.83	11.83	.20	18.54			49.70
Mean Length		505		573	512	574	579			551
Std. Error		3		4	3		2			1
Sample Size		37		60	60	1	94			252
Mean Weight		2.01		3.12	2.07		3.00			2.66
Std. Error		.08		.28	.07		.08			.08
Sample Size		5		8	10		20			43
Both Sexes		40,850		47,195	49,575	397	63,060			201,077
Percent		20.32		23.47	24.65	.20	31.36			100.00
Mean Length		519		585	520	574	589			557
Std. Error		2		3	2		2			1
Sample Size		103		119	125	1	159			507
Mean Weight		2.33		3.35	2.18		3.37			2.86
Std. Error		.08		.17	.09		.08			.05
Sample Size		13		21	14		31			79

-Continued-

Table 24. (p 5 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 5 7/13										
Males		36,563		46,589	45,999	590	58,383		590	188,714
Percent		10.93		13.93	13.76	.18	17.46		.18	56.44
Mean Length		531		604	530	608	600		612	571
Std. Error		4		3	3		3			1
Sample Size		62		79	78	1	99		1	320
Mean Weight		2.51		3.90	2.58		3.75			3.26
Std. Error		.07		.15	.13		.13			.06
Sample Size		16		19	17		25			77
Females		23,589		30,076	35,974		56,025			145,664
Percent		7.05		8.99	10.76		16.75			43.56
Mean Length		511		575	520		579			553
Std. Error		3		4	2		2			1
Sample Size		40		51	61		95			247
Mean Weight		2.02		3.05	2.22		3.21			2.74
Std. Error		.05		.08	.06		.08			.04
Sample Size		11		8	16		23			58
Both Sexes		60,152		76,665	81,973	590	114,408		590	334,378
Percent		17.99		22.93	24.52	.18	34.22		.18	100.00
Mean Length		523		593	526	608	590		612	563
Std. Error		2		2	2		2			1
Sample Size		102		130	139	1	194		1	567
Mean Weight		2.32		3.57	2.42		3.49			3.03
Std. Error		.04		.10	.08		.07			.04
Sample Size		27		27	33		48			135

-Continued-

Table 24. (p 6 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 6 7/16-9/07										
Males	1,005	51,269		85,449	68,359		130,687	1,005		337,774
Percent	.17	8.43		14.05	11.24		21.49	.17		55.54
Mean Length	603	518		606	530		603	572		576
Std. Error		4		3	5		3			2
Sample Size	1	51		85	68		130	1		336
Mean Weight		2.26		3.71	2.51		3.55			3.18
Std. Error		.14		.20	.07		.18			.09
Sample Size		5		12	12		17			46
Females	1,005	32,169		64,338	68,359		104,550			270,421
Percent	.17	5.29		10.58	11.24		17.19			44.46
Mean Length	562	505		575	511		577			551
Std. Error		4		3	3		3			2
Sample Size	1	32		64	68		104			269
Mean Weight		1.93		3.28	2.27		2.91			2.72
Std. Error		.16		.31	.08		.11			.09
Sample Size		3		4	10		20			37
Both Sexes	2,010	83,438		149,787	136,718		235,237	1,005		608,195
Percent	.33	13.72		24.63	22.48		38.68	.17		100.00
Mean Length	583	513		593	521		591	572		565
Std. Error		3		2	3		2			1
Sample Size	2	83		149	136		234	1		605
Mean Weight		2.13		3.53	2.39		3.27			2.98
Std. Error		.10		.18	.05		.11			.06
Sample Size		8		16	22		37			83

-Continued-

Table 24. (p 7 of 7)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
All Periods Combined										
Males	4,325	245,802	697	281,928	243,389	1,899	353,512	1,005	590	1,133,147
Percent	.20	11.60	.03	13.30	11.49	.09	16.68	.05	.03	53.47
Mean Length	591	530	584	595	535	622	598	572	612	569
Std. Error	8	2		2	2		2			1
Sample Size	6	379	1	413	367	3	503	1	1	1,674
Mean Weight		2.46	3.01	3.57	2.52	4.46	3.62			3.12
Std. Error		.07		.09	.05		.09			.04
Sample Size		61	1	79	63	1	87			292
Females	3,708	142,805	697	254,385	197,732	1,094	384,923		697	986,041
Percent	.17	6.74	.03	12.00	9.33	.05	18.16		.03	46.53
Mean Length	574	520	589	576	521	584	575		592	557
Std. Error	18	2		2	2		1			1
Sample Size	5	217	1	378	292	2	572		1	1,468
Mean Weight	2.63	2.15		3.05	2.28		3.00			2.74
Std. Error		.07		.09	.05		.04			.03
Sample Size	2	40		61	52		116			271
Both Sexes	8,033	388,607	1,394	536,313	441,121	2,993	738,435	1,005	1,287	2,119,188
Percent	.38	18.34	.07	25.31	20.82	.14	34.85	.05	.06	100.00
Mean Length	583	526	587	586	529	608	586	572	601	563
Std. Error	8	1		1	1		1			1
Sample Size	11	596	2	791	659	5	1,075	1	2	3,142
Mean Weight	2.63	2.35	3.01	3.32	2.41	4.46	3.29			2.94
Std. Error		.05		.06	.04		.05			.03
Sample Size	2	101	1	140	115	1	203			563

Table 25. Daily sockeye salmon escapement counts, Ugashik River, 1987.

Date	Daily Count[a]	Accumulative Count	Daily Percent of Total	Accumulative Percent
July 4	4,218	4,218	.63	.63
5	1,332	5,550	.20	.83
6	918	6,468	.14	.97
7	6	6,474	.00	.97
8	2,514	8,988	.38	1.34
9	29,172	38,160	4.36	5.70
10	27,996	66,156	4.18	9.89
11	2,424	68,580	.36	10.25
12	468	69,048	.07	10.32
13	198	69,246	.03	10.35
14	3,030	72,276	.45	10.80
15	120,300	192,576	17.98	28.79
16	310,194	502,770	46.37	75.16
17	45,252	548,022	6.76	81.92
18	5,874	553,896	.88	82.80
19	4,308	558,204	.64	83.44
20	4,596	562,800	.69	84.13
21	5,736	568,536	.86	84.99
22	7,626	576,162	1.14	86.13
23	11,802	587,964	1.76	87.89
24	6,858	594,822	1.03	88.92
25	4,590	599,412	.69	89.60
26	11,172	610,584	1.67	91.27
27	18,756	629,340	2.80	94.08
28	6,120	635,460	.91	94.99
29	11,142	646,602	1.67	96.66
30	8,604	655,206	1.29	97.94
31	7,242	662,448	1.08	99.03
Aug. 1	6,516	668,964	.97	100.00

[a] An additional 2,075 sockeye salmon were counted in the Dog Salmon River and 15,855 sockeye salmon were counted in the King Salmon River drainage bringing the Ugashik District total to 686,894.

Table 26. Age, sex, and size composition of sockeye salmon escapement in Ugashik River, 1987.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 7/04-7/10											
Males				8,835	697	2,557	5,579		8,602		26,270
Percent				12.88	1.02	3.73	8.14		12.54		38.31
Mean Length				529	390	609	528		615		561
Std. Error				5	9	6	4		5		2
Sample Size				38	3	11	24		37		113
Females				5,812		13,948	7,904		14,646		42,310
Percent				8.47		20.34	11.53		21.36		61.69
Mean Length				503		588	514		587		562
Std. Error				4		3	4		3		2
Sample Size				25		60	34		63		182
Both Sexes				14,647	697	16,505	13,483		23,248		68,580
Percent				21.36	1.02	24.07	19.66		33.90		100.00
Mean Length				519	390	592	520		597		562
Std. Error				3	9	2	3		3		1
Sample Size				63	3	71	58		100		295

-Continued-

Table 26. (p 2 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 2 7/12-7/15											
Males				22,660	629	7,553	21,400		3,147		55,389
Percent				18.27	.51	6.09	17.26		2.54		44.67
Mean Length				529	379	608	531		616		544
Std. Error				4		5	4		11		2
Sample Size				36	1	12	34		5		88
Females				22,660		10,700	21,400		13,847		68,607
Percent				18.27		8.63	17.26		11.17		55.33
Mean Length				510		581	504		597		537
Std. Error				4		5	3		4		2
Sample Size				36		17	34		22		109
Both Sexes				45,320	629	18,253	42,800		16,994		123,996
Percent				36.55	.51	14.72	34.52		13.71		100.00
Mean Length				520	379	592	518		600		540
Std. Error				3		4	3		4		2
Sample Size				72	1	29	68		27		197

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Table 26. (p. 3 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3 7/16-7/17											
Males				80,714	3,104	41,908	31,043		46,565		203,334
Percent				22.71	.87	11.79	8.73		13.10		57.21
Mean Length				522	355	602	528		608		557
Std. Error				3	15	5	5		4		2
Sample Size				52	2	27	20		30		131
Females				62,086		29,491	24,835		35,700		152,112
Percent				17.47		8.30	6.99		10.04		42.79
Mean Length				496		587	504		579		535
Std. Error				3		4	4		5		2
Sample Size				40		19	16		23		98
Both Sexes				142,800	3,104	71,399	55,878		82,265		355,446
Percent				40.17	.87	20.09	15.72		23.14		100.00
Mean Length				511	355	596	517		596		547
Std. Error				2	15	3	3		3		1
Sample Size				92	2	46	36		53		229

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Table 26. (p 4 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 4 7/18-7/19											
Males				1,743	279	941	872		628		4,463
Percent				17.12	2.74	9.24	8.56		6.17		43.83
Mean Length				534	369	610	518		612		548
Std. Error				20	9	6	6		6		8
Sample Size				50	8	27	25		18		128
Females			70	2,546		767	1,499		837		5,719
Percent			.69	25.00		7.53	14.72		8.22		56.17
Mean Length			549	501		582	500		572		523
Std. Error			15	3		5	3		6		2
Sample Size			2	73		22	43		24		164
Both Sexes			70	4,289	279	1,708	2,371		1,465		10,182
Percent			.69	42.12	2.74	16.77	23.29		14.39		100.00
Mean Length			549	515	369	597	507		589		534
Std. Error			15	8	9	4	3		4		4
Sample Size			2	123	8	49	68		42		292

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Table 26. (p 5 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 5 7/20											
Males			18	572	18	304	215	18	822		1,967
Percent			.39	12.45	.39	6.61	4.68	.39	17.89		42.80
Mean Length			619	537	404	614	532	653	622		584
Std. Error				6		6	12		3		3
Sample Size			1	32	1	17	12	1	46		110
Females	18	18	54	1,001		447	465		626		2,629
Percent	.39	.39	1.17	21.78		9.73	10.12		13.62		57.20
Mean Length	525	420	570	514		584	500		590		542
Std. Error			10	4		6	5		4		2
Sample Size	1	1	3	56		25	26		35		147
Both Sexes	18	18	72	1,573	18	751	680	18	1,448		4,596
Percent	.39	.39	1.57	34.23	.39	16.34	14.80	.39	31.51		100.00
Mean Length	525	420	582	522	404	596	510	653	608		560
Std. Error			10	3		4	5		2		2
Sample Size	1	1	4	88	1	42	38	1	81		257

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Table 26. (p 6 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 6 7/21											
Males				601		983	273		874		2,731
Percent				10.48		17.14	4.76		15.24		47.61
Mean Length				528		622	522		636		596
Std. Error				13		6	24		5		5
Sample Size				11		18	5		16		50
Females			55	1,092		1,038	492		328		3,005
Percent			.96	19.04		18.10	8.58		5.72		52.39
Mean Length			588	502		584	530		610		548
Std. Error				4		5	10		7		3
Sample Size			1	20		19	9		6		55
Both Sexes			55	1,693		2,021	765		1,202		5,736
Percent			.96	29.52		35.23	13.34		20.96		100.00
Mean Length			588	512		603	527		629		571
Std. Error				5		4	11		4		3
Sample Size			1	31		37	14		22		105

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Table 26. (p 7 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 7 7/22											
Males			30	961	90	691	630		1,051		3,453
Percent			.39	12.60	1.18	9.06	8.26		13.78		45.28
Mean Length			565	516	394	604	529		611		562
Std. Error				5	5	6	5		4		3
Sample Size			1	32	3	23	21		35		115
Females			60	1,591		691	1,351		480		4,173
Percent			.79	20.86		9.06	17.72		6.29		54.72
Mean Length			565	496		579	496		585		521
Std. Error			1	3		6	3		5		2
Sample Size			2	53		23	45		16		139
Both Sexes			90	2,552	90	1,382	1,981		1,531		7,626
Percent			1.18	33.46	1.18	18.12	25.98		20.08		100.00
Mean Length			565	504	394	591	506		603		540
Std. Error			1	3	5	4	3		3		2
Sample Size			3	85	3	46	66		51		254

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Table 26. (p 8 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 8 7/23											
Males				1,992	77	1,073	536	77	1,916		5,671
Percent				16.88	.65	9.09	4.54	.65	16.23		48.05
Mean Length				544	378	611	530	627	617		579
Std. Error				7		6	10		5		3
Sample Size				26	1	14	7	1	25		74
Females			230	2,452		1,303	1,073		1,073		6,131
Percent			1.95	20.78		11.04	9.09		9.09		51.95
Mean Length			565	502		575	502		582		534
Std. Error			8	6		8	7		4		3
Sample Size			3	32		17	14		14		80
Both Sexes			230	4,444	77	2,376	1,609	77	2,989		11,802
Percent			1.95	37.65	.65	20.13	13.63	.65	25.33		100.00
Mean Length			565	521	378	591	512	627	604		555
Std. Error			8	4		5	6		4		2
Sample Size			3	58	1	31	21	1	39		154

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Table 26. (p 9 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 9 7/24											
Males		39		539	116	771	501	39	1,077		3,082
Percent		.57		7.86	1.69	11.24	7.31	.57	15.70		44.94
Mean Length		350		515	366	616	500	618	618		567
Std. Error				12	7	4	8		4		3
Sample Size		1		14	3	20	13	1	28		80
Females				1,387		462	1,541	39	347		3,776
Percent				20.22		6.74	22.47	.57	5.06		55.06
Mean Length				493		565	501	595	595		516
Std. Error				4		13	5		8		3
Sample Size				36		12	40	1	9		98
Both Sexes		39		1,926	116	1,233	2,042	78	1,424		6,858
Percent		.57		28.08	1.69	17.98	29.78	1.14	20.76		100.00
Mean Length		350		499	366	597	501	607	612		539
Std. Error				4	7	6	4		4		2
Sample Size		1		50	3	32	53	2	37		178

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Table 26. (p 10 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 10 7/25											
Males			54	675		594	324		810		2,457
Percent			1.18	14.71		12.94	7.06		17.65		53.53
Mean Length			614	533		605	541		632		586
Std. Error			16	5		6	14		3		3
Sample Size			2	25		22	12		30		91
Females	27		54	702		540	459		351		2,133
Percent	.59		1.18	15.29		11.76	10.00		7.65		46.47
Mean Length	562		599	506		583	501		591		542
Std. Error			3	5		7	5		11		3
Sample Size	1		2	26		20	17		13		79
Both Sexes	27		108	1,377		1,134	783		1,161		4,590
Percent	.59		2.35	30.00		24.71	17.06		25.29		100.00
Mean Length	562		606	519		594	518		620		565
Std. Error			8	3		4	6		4		2
Sample Size	1		4	51		42	29		43		170

-Continued-

Table 26. (p 11 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 11 7/26-8/01											
Males				6,400	565	7,906	4,047	188	10,164		29,270
Percent				9.20	.81	11.37	5.82	.27	14.61		42.08
Mean Length				526	369	609	524	593	620		578
Std. Error				3	6	3	5	23	3		2
Sample Size				68	6	84	43	2	108		311
Females			659	11,671		11,200	11,388	282	4,988	94	40,282
Percent			.95	16.78		16.10	16.37	.41	7.17	.14	57.92
Mean Length			578	502		583	504	543	588	580	538
Std. Error			8	2		2	2	35	3		1
Sample Size			7	124		119	121	3	53	1	428
Both Sexes			659	18,071	565	19,106	15,435	470	15,152	94	69,552
Percent			.95	25.98	.81	27.47	22.19	.68	21.79	.14	100.00
Mean Length			578	510	369	594	509	563	610	580	555
Std. Error			8	2	6	2	2	23	2		1
Sample Size			7	192	6	203	164	5	161	1	739

-Continued-

Table 26. (p 12 of 12)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined											
Males		39	102	125,692	5,575	65,281	65,420	322	75,656		338,087
Percent		.01	.02	18.79	.83	9.76	9.78	.05	11.31		50.54
Mean Length		350	600	525	365	605	528	608	612		558
Std. Error			16	2	9	3	3	23	3		1
Sample Size		1	4	384	28	275	216	5	378		1,291
Females	45	18	1,182	113,000		70,587	72,407	321	73,223	94	330,877
Percent	.01	.00	.18	16.89		10.55	10.82	.05	10.95	.01	49.46
Mean Length	547	420	574	500		585	505	550	585	580	539
Std. Error			5	2		2	2	35	3		1
Sample Size	2	1	20	521		353	399	4	278	1	1,579
Both Sexes	45	57	1,284	238,692	5,575	135,868	137,827	643	148,879	94	668,964
Percent	.01	.01	.19	35.68	.83	20.31	20.60	.10	22.26	.01	100.00
Mean Length	547	372	576	513	365	595	516	579	599	580	548
Std. Error			5	2	9	2	2	23	2		1
Sample Size	2	2	24	905	28	628	615	9	656	1	2,870

Table 27. Age composition of chinook salmon commercial catch in Ugashik District, 1987.

	Age Group								
	1.1	1.2	2.1	1.3	2.3	1.4	1.5	2.4	Total
All Periods Combined									
Both Sexes	41	81	7	955	13	2,223	352	61	3,733
Percent	1.09	2.18	0.18	25.59	0.36	59.53	9.44	1.63	100.00
Sample Size	6	12	1	141	2	328	52	9	708

Table 28. Commercial salmon catch by period and species, Nushagak District, 1987.

Openings		Effort[a]		Catch(number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/01	15	81			2,233	1			2,234
6/02	24	114		3	2,957	7			2,967
6/03	24	29		1	56	1			58
6/04	9	6			7				7
6/25	12	258		195,606	19,054	54,744			269,404
6/30	6	428	257	305,329	529	27,172			333,030
7/01[c]	24	117	51	77,602	916	6,627			85,145
7/02	12	350	247	299,456	2,062	28,023			329,541
7/03	12	392	243	161,955	1,068	22,237	1		185,261
7/06	6	453	242	10,643	27	152			10,822
7/07	12	400	289	455,314	855	34,128		1	490,298
7/08	12.5			454,006	4,178	48,042	1		506,227
7/09	24			249,416	2,725	31,456			283,597
7/10[d]	24			161,842	981	25,311			188,134
7/11	24	238	210	112,946	658	15,017			128,621
7/12[e]	15			278,034	1,143	38,650		1	317,828
7/13[d]	24			160,299	2,446	23,211		1	185,957
7/14[d]	24			48,766	1,075	8,227		1	58,069
7/15[d]	24			109,330	1,997	10,042			121,369
7/16[d]	24			60,693	682	6,854	1	20	68,250
7/17[d]	24			31,083	350	3,290		5	34,728
7/18[d]	9			6,534	132	398			7,064
7/20	15			32,545	442	5,848		66	38,901
7/21	24			15,601	149	2,807	1	23	18,581
7/22	24			9,766	216	1,447		59	11,488
7/23	24			5,879	102	866		8	6,855
7/24	24			5,323	210	965		340	6,838
7/25	24			2,370	90	229	1	297	2,987
7/27	15			927	37	1,110		155	2,229
7/28	9			1,011	39	558		63	1,671

-Continued-

Table 28. (p 2 of 2)

Openings		Effort[a]		Catch(number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	King	Chum	Pink	Coho	Total
7/30	15			202	48	3,740		461	4,451
7/31	9			386	56	1,672		439	2,553
8/03	15			23	43	284		6,302	6,652
8/04	9			11	29	283		4,856	5,179
Total				3,252,902	47,592	403,399	5	13,098	3,716,996
Percent of District Catch				87.5	1.3	10.8	0.0	0.4	100.0

[a] Fishing effort represents number of drift boats and number of set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 1 for emergency fishing periods.

[c] Igushik Section only.

[d] Nushagak Section only.

[e] Nushagak District until 1:00 p.m. and Nushagak Section only from 1:00 p.m. until midnight.

Table 29. Age and sex composition of sockeye salmon inshore return to the Nushagak District, 1987.

	Age Group							
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	Total
CATCH								
Males			633,844	809,315	40,044	3,046	49,334	1,535,583
Percent		0.00	12.31	15.72	0.78	0.06	0.96	29.83
Females			444,721	1,153,541	23,286	8,845	86,926	1,717,319
Percent		0.00	8.64	22.41	0.45	0.17	1.69	33.36
Both Sexes		0	1,078,565	1,962,856	63,330	11,891	136,260	3,252,902
Percent		0.00	20.95	38.13	1.23	0.23	2.65	63.20
ESCAPEMENT								
Males	462	462	518,373	223,375	37,306	893	20,151	801,022
Percent	0.01		10.07	4.34	0.72	0.02	0.39	15.56
Females			675,498	335,242	45,746	3,775	33,159	1,093,420
Percent	0.00		13.12	6.51	0.89	0.07	0.64	21.24
Both Sexes	462		1,193,871	558,617	83,052	4,668	53,310	1,894,442
Percent	0.01		23.19	10.85	1.61	0.09	1.04	36.80
CATCH AND ESCAPEMENT								
Males	462	462	1,152,217	1,032,690	77,350	3,939	69,485	2,336,605
Percent	0.01	0.01	22.38	20.06	1.50	0.08	1.35	45.39
Females	0	0	1,120,219	1,488,783	69,032	12,620	120,085	2,810,739
Percent	0.00	0.00	21.76	28.92	1.34	0.25	2.33	54.61
Both Sexes	462	462	2,272,436	2,521,473	146,382	16,559	189,570	5,147,344
Percent	0.01	0.01	44.15	48.99	2.84	0.32	3.68	100.00

Table 30. Age, sex, and size composition of sockeye salmon commercial catch in Nushagak District, 1987.[a]

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/01-6/26						
Males	36,663	38,102	1,078	1,797	4,313	81,953
Percent	19.73	20.50	.58	.97	2.32	44.10
Mean Length	515	573	544	604	596	549
Std. Error	2	4	15	3	5	2
Sample Size	102	106	3	5	12	228
Mean Weight	2.21	3.09	2.26	3.62	3.62	2.72
Std. Error	.06	.13				.07
Sample Size	23	25	2	2	1	53
Females	11,143	82,672	359	3,235	6,470	103,879
Percent	6.00	44.49	.19	1.74	3.48	55.90
Mean Length	506	564	500	590	573	559
Std. Error	4	2		7	4	1
Sample Size	31	230	1	9	18	289
Mean Weight	1.71	2.81		3.24	2.87	2.71
Std. Error	.08	.06		.20	.15	.05
Sample Size	7	58		4	3	72
Both Sexes	47,806	120,774	1,437	5,032	10,783	185,832
Percent	25.73	64.99	.77	2.71	5.80	100.00
Mean Length	513	567	533	595	582	555
Std. Error	2	2	15	5	3	1
Sample Size	133	336	4	14	30	517
Mean Weight	2.09	2.90	2.26	3.38	3.17	2.72
Std. Error	.05	.06		.20	.15	.04
Sample Size	30	83	2	6	4	125

-Continued-

Table 30. (p 2 of 6)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 2 6/27-7/02						
Males	125,664	124,542	8,976	1,122	10,098	270,402
Percent	19.28	19.11	1.38	.17	1.55	41.48
Mean Length	519	577	511	632	591	549
Std. Error	2	3	4		8	2
Sample Size	112	111	8	1	9	241
Mean Weight	2.49	3.43	2.22		4.03	2.97
Std. Error	.10	.17	.03		.50	.09
Sample Size	23	24	3		2	52
Females	86,394	267,035	3,366	5,610	19,074	381,479
Percent	13.25	40.96	.52	.86	2.93	58.52
Mean Length	510	558	505	598	564	547
Std. Error	3	1	14	8	5	1
Sample Size	77	238	3	5	17	340
Mean Weight	2.20	2.91	2.08	3.62	3.09	2.76
Std. Error	.08	.05	.27	.19	.22	.04
Sample Size	21	54	2	3	4	84
Both Sexes	212,058	391,577	12,342	6,732	29,172	651,881
Percent	32.53	60.07	1.89	1.03	4.48	100.00
Mean Length	515	564	510	603	573	548
Std. Error	2	2	5	8	4	1
Sample Size	189	349	11	6	26	581
Mean Weight	2.37	3.08	2.18	3.62	3.42	2.85
Std. Error	.07	.06	.08	.19	.22	.04
Sample Size	44	78	5	3	6	136

-Continued-

Table 30. (p 3 of 6)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 3 7/03-7/10						
Males	293,411	333,808	19,136		8,505	654,860
Percent	20.66	23.50	1.35		.60	46.11
Mean Length	518	597	513		599	559
Std. Error	4	2	5		8	2
Sample Size	138	157	9		4	308
Mean Weight	2.26	3.76	1.99		3.96	3.04
Std. Error	.06	.07	.07		.25	.05
Sample Size	30	36	3		2	71
Females	223,248	493,271	12,757		36,145	765,421
Percent	15.72	34.73	.90		2.54	53.89
Mean Length	500	564	495		559	544
Std. Error	2	1	11		3	1
Sample Size	105	232	6		17	360
Mean Weight	2.07	2.97			2.73	2.69
Std. Error	.08	.05			.11	.04
Sample Size	26	66			5	97
Both Sexes	516,659	827,079	31,893		44,650	1,420,281
Percent	36.38	58.23	2.25		3.14	100.00
Mean Length	510	577	506		567	551
Std. Error	2	1	5		3	1
Sample Size	243	389	15		21	668
Mean Weight	2.18	3.29	1.99		2.96	2.85
Std. Error	.05	.04	.07		.10	.03
Sample Size	56	102	3		7	168

-Continued-

Table 30. (p 4 of 6)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 4 7/11						
Males	29,508	20,351			1,018	50,877
Percent	26.13	18.02			.90	45.05
Mean Length	514	602			635	552
Std. Error	6	9				5
Sample Size	29	20			1	50
Mean Weight	2.49	3.85				3.05
Std. Error	.16	.28				.15
Sample Size	3	5				8
Females	38,666	21,368	2,035			62,069
Percent	34.23	18.92	1.80			54.95
Mean Length	491	563	505			516
Std. Error	2	5	15			2
Sample Size	38	21	2			61
Mean Weight	1.79	3.10	1.72			2.24
Std. Error	.05	.18				.07
Sample Size	12	5	1			18
Both Sexes	68,174	41,719	2,035		1,018	112,946
Percent	60.36	36.94	1.80		.90	100.00
Mean Length	501	582	505		635	532
Std. Error	3	5	15			3
Sample Size	67	41	2		1	111
Mean Weight	2.09	3.47	1.72			2.60
Std. Error	.07	.16				.08
Sample Size	15	10	1			26

-Continued-

Table 30. (p 5 of 6)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 5 7/12-8/04						
Males	133,620	254,204	9,777		22,813	420,414
Percent	17.83	33.91	1.30		3.04	56.09
Mean Length	524	601	519		592	574
Std. Error	3	2	9		7	2
Sample Size	82	156	6		14	258
Mean Weight	2.47	4.05	2.15		2.99	3.45
Std. Error	.09	.15	.34		.41	.10
Sample Size	20	40	2		2	64
Females	73,328	233,021	3,259		19,554	329,162
Percent	9.78	31.09	.43		2.61	43.91
Mean Length	498	566	502		564	550
Std. Error	3	2	24		8	2
Sample Size	45	143	2		12	202
Mean Weight	1.99	3.03	2.29		3.50	2.82
Std. Error	.23	.05	.44		.43	.07
Sample Size	5	40	2		3	50
Both Sexes	206,948	487,225	13,036		42,367	749,576
Percent	27.61	65.00	1.74		5.65	100.00
Mean Length	515	584	515		579	563
Std. Error	2	1	9		5	1
Sample Size	127	299	8		26	460
Mean Weight	2.30	3.56	2.19		3.23	3.17
Std. Error	.10	.08	.28		.30	.06
Sample Size	25	80	4		5	114

-Continued-

Table 30. (p 6 of 6)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
All Periods Combined						
Males	618,866	771,007	38,967	2,919	46,747	1,478,506
Percent	19.83	24.71	1.25	.09	1.50	47.38
Mean Length	519	594	515	615	594	561
Std. Error	2	1	3	3	4	1
Sample Size	463	550	26	6	40	1,085
Mean Weight	2.36	3.77	2.09	3.62	3.46	3.13
Std. Error	.04	.06	.09		.26	.04
Sample Size	99	130	10	2	7	248
Females	432,779	1,097,367	21,776	8,845	81,243	1,642,010
Percent	13.87	35.17	.70	.28	2.60	52.62
Mean Length	501	563	499	595	562	546
Std. Error	1	1	8	5	3	1
Sample Size	296	864	14	14	64	1,252
Mean Weight	2.05	2.96	2.07	3.48	3.01	2.72
Std. Error	.06	.03	.26	.14	.13	.03
Sample Size	71	223	5	7	15	321
Both Sexes	1,051,645	1,868,374	60,743	11,764	127,990	3,120,516
Percent	33.70	59.87	1.95	.38	4.10	100.00
Mean Length	512	576	509	600	574	553
Std. Error	1	1	4	5	2	1
Sample Size	759	1,414	40	20	104	2,337
Mean Weight	2.23	3.29	2.09	3.50	3.17	2.91
Std. Error	.03	.03	.09	.14	.12	.02
Sample Size	170	353	15	9	22	569

[a] Does not include age-weight-length data or catch data for sockeye salmon harvested by set nets in Igushik Section (132,386 fish).

Table 31. Commercial set net sockeye salmon catches by period, Clark's Point, Ekuk, and Igushik Beaches, 1987.

Period	Hours[a]	Clark's Point Beach[b]	Ekuk Beach[c]	Igushik Beach[d]
June 1	15			
2	24			
3	24			
4	9			
25	12	448	2,137	9,778
30	6	4,652	6,096	8,141
July 1	24			7,607
2	12	6,296	5,829	14,758
3	12	1,360	3,339	11,455
6	6	8,169		
7	12	7,089	8,395	15,646
8	12.5	2,911	17,786	29,176
9	24	1,421	7,628	16,168
10	24	1,243	6,533	
11	24	865	5,848	
12	15	917	16,249	12,546
13	24	1,828	16,478	
14	24	385	673	
15	24	6,584	8,359	
16	24	1,577	10,125	
17	24		6,495	
18	9	1,222	2,886	
20	15		1,840	2,349
21	24	483	3,012	3,200
22	24		3,146	1,112
23	24		2,476	
24	24		3,064	
25	24		737	
27	15			
28	9			
30	15			
31	9			
Aug. 3	15			
4	9			
Totals		47,445	139,131	132,386

[a] See Table 1 for emergency order fishing periods.

[b] Approximate fishing effort was 22 set nets.

[c] Approximate fishing effort was 98 set nets.

[d] Approximate fishing effort was 75 set nets.

Table 32. Age, sex, and size composition of sockeye salmon commercial catch in Igushik Beach set net fishery, 1987.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/25-7/07						
Males	7,756	18,054	763	127	1,017	27,717
Percent	11.51	26.79	1.13	.19	1.51	41.13
Mean Length	527	596	545	616	601	576
Std. Error	4	2	10		7	2
Sample Size	61	142	6	1	8	218
Mean Weight	2.55	3.86			3.67	3.47
Std. Error	.13	.09			.18	.07
Sample Size	12	32			4	48
Females	5,976	30,895	254		2,543	39,668
Percent	8.87	45.85	.38		3.77	58.87
Mean Length	504	563	550		559	554
Std. Error	4	1	26		5	1
Sample Size	47	243	2		20	312
Mean Weight	1.98	2.91			2.76	2.76
Std. Error	.08	.05			.25	.04
Sample Size	13	59			3	75
Both Sexes	13,732	48,949	1,017	127	3,560	67,385
Percent	20.38	72.64	1.51	.19	5.28	100.00
Mean Length	517	575	546	616	571	563
Std. Error	3	1	10		4	1
Sample Size	108	385	8	1	28	530
Mean Weight	2.30	3.26			3.02	3.05
Std. Error	.08	.04			.19	.04
Sample Size	25	91			7	123

-Continued-

Table 32. (p 2 of 3)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 2 7/08-7/22						
Males	7,222	20,254	314		1,570	29,360
Percent	11.11	31.16	.48		2.42	45.17
Mean Length	526	602	539		600	583
Std. Error	3	2	5		7	1
Sample Size	46	129	2		10	187
Mean Weight	2.57	3.87			4.01	3.55
Std. Error	.06	.09			.30	.07
Sample Size	9	39			4	52
Females	5,966	25,279	1,256		3,140	35,641
Percent	9.18	38.89	1.93		4.83	54.83
Mean Length	498	566	509		558	552
Std. Error	3	2	10		5	1
Sample Size	38	161	8		20	227
Mean Weight	2.02	3.00	2.08		2.63	2.77
Std. Error	.07	.09	.32		.13	.07
Sample Size	9	33	3		7	52
Both Sexes	13,188	45,533	1,570		4,710	65,001
Percent	20.29	70.05	2.42		7.25	100.00
Mean Length	513	582	515		572	566
Std. Error	2	1	8		4	1
Sample Size	84	290	10		30	414
Mean Weight	2.32	3.39	2.08		3.09	3.12
Std. Error	.05	.07	.32		.13	.05
Sample Size	18	72	3		11	104

-Continued-

Table 32. (p 3 of 3)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
All Periods Combined						
Males	14,978	38,308	1,077	127	2,587	57,077
Percent	11.31	28.94	.81	.10	1.95	43.11
Mean Length	527	599	543	616	600	579
Std. Error	3	1	7		5	1
Sample Size	107	271	8	1	18	405
Mean Weight	2.56	3.87			3.88	3.52
Std. Error	.08	.06			.20	.05
Sample Size	21	71			8	100
Females	11,942	56,174	1,510		5,683	75,309
Percent	9.02	42.43	1.14		4.29	56.89
Mean Length	501	564	516		559	553
Std. Error	2	1	10		3	1
Sample Size	85	404	10		40	539
Mean Weight	2.00	2.95	2.08		2.69	2.76
Std. Error	.05	.05	.32		.14	.04
Sample Size	22	92	3		10	127
Both Sexes	26,920	94,482	2,587	127	8,270	132,386
Percent	20.33	71.37	1.95	.10	6.25	100.00
Mean Length	515	578	527	616	572	564
Std. Error	2	1	6		3	1
Sample Size	192	675	18	1	58	944
Mean Weight	2.31	3.32	2.08		3.06	3.09
Std. Error	.05	.04	.32		.11	.03
Sample Size	43	163	3		18	227

Table 33. Age and sex composition of sockeye salmon estimated catch and escapement in Wood River, 1987.

	Age Group						
	1.1	0.3	1.2	1.3	2.2	2.3	Total
CATCH							
Males			489,578	319,614	34,518	18,436	862,146
Percent			16.12	10.52	1.14	.61	28.38
Females			395,200	377,366	19,881	45,778	838,225
Percent			13.01	12.42	.65	1.51	27.60
Both Sexes			884,778	696,980	54,399	64,214	1,700,371
Percent			29.13	22.95	1.79	2.11	55.98
ESCAPEMENT							
Males	462	462	410,079	92,598	33,047	7,947	544,595
Percent	.02	.02	13.50	3.05	1.09	.26	17.93
Females			616,843	115,284	41,766	18,684	792,577
Percent			20.31	3.80	1.37	.62	26.09
Both Sexes	462	462	1,026,922	207,882	74,813	26,631	1,337,172
Percent	.02	.02	33.81	6.84	2.46	.88	44.02
CATCH AND ESCAPEMENT							
Males	462	462	899,657	412,212	67,565	26,383	1,406,741
Percent	.02	.02	29.62	13.57	2.22	.87	46.31
Females			1,012,043	492,650	61,647	64,462	1,630,802
Percent			33.32	16.22	2.03	2.12	53.69
Both Sexes	462	462	1,911,700	904,862	129,212	90,845	3,037,543
Percent	.02	.02	62.94	29.79	4.25	2.99	100.00

Table 34. Daily sockeye salmon escapement counts, Wood River, 1987.

Date	Daily Count	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 24	1,620	1,620	.12	.12
25	6,546	8,166	.49	.61
26	3,702	11,868	.28	.89
27	5,382	17,250	.40	1.29
28	20,304	37,554	1.52	2.81
29	86,172	123,726	6.44	9.25
30	217,668	341,394	16.28	25.53
July 1	196,200	537,594	14.67	40.20
2	117,156	654,750	8.76	48.97
3	68,058	722,808	5.09	54.05
4	19,626	742,434	1.47	55.52
5	17,790	760,224	1.33	56.85
6	16,008	776,232	1.20	58.05
7	54,066	830,298	4.04	62.09
8	198,516	1,028,814	14.85	76.94
9	101,814	1,130,628	7.61	84.55
10	30,798	1,161,426	2.30	86.86
11	19,878	1,181,304	1.49	88.34
12	16,218	1,197,522	1.21	89.56
13	16,266	1,213,788	1.22	90.77
14	27,798	1,241,586	2.08	92.85
15	24,540	1,266,126	1.84	94.69
16	14,808	1,280,934	1.11	95.79
17	16,506	1,297,440	1.23	97.03
18	13,524	1,310,964	1.01	98.04
19	7,524	1,318,488	.56	98.60
20	7,386	1,325,874	.55	99.16
21	6,768	1,332,642	.51	99.66
22	3,798	1,336,440	.28	99.95
23	732	1,337,172	.05	100.00

Table 35. Age, sex, and size composition of sockeye salmon escapement in Wood River, 1987.

	Age Group						
	1.1	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 1 6/24-6/30							
Males			98,479	26,261	23,635	3,939	152,314
Percent			28.85	7.69	6.92	1.15	44.62
Mean Length			502	573	514	594	518
Std. Error			3	8	5	13	3
Sample Size			75	20	18	3	116
Females			135,245	26,261	22,322	5,252	189,080
Percent			39.62	7.69	6.54	1.54	55.38
Mean Length			492	552	495	542	502
Std. Error			2	7	9	10	3
Sample Size			103	20	17	4	144
Both Sexes			233,724	52,522	45,957	9,191	341,394
Percent			68.46	15.38	13.46	2.69	100.00
Mean Length			496	563	505	564	509
Std. Error			2	6	5	8	2
Sample Size			178	40	35	7	260
Sample Period 2 7/01-7/08							
Males			224,816	49,719	7,566	2,162	284,263
Percent			32.70	7.23	1.10	.31	41.35
Mean Length			507	572	511	588	519
Std. Error			2	6	8	16	2
Sample Size			208	46	7	2	263
Females			304,800	69,174	16,213	12,970	403,157
Percent			44.34	10.06	2.36	1.89	58.65
Mean Length			486	541	489	541	497
Std. Error			1	4	6	10	2
Sample Size			282	64	15	12	373
Both Sexes			529,616	118,893	23,779	15,132	687,420
Percent			77.04	17.30	3.46	2.20	100.00
Mean Length			495	554	496	548	506
Std. Error			1	4	5	9	1
Sample Size			490	110	22	14	636

-Continued-

Table 35. (p 2 of 2)

	Age Group						
	1.1	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 3 7/09-7/23							
Males	462	462	86,784	16,618	1,846	1,846	108,018
Percent	.15	.15	28.14	5.39	.60	.60	35.03
Mean Length	330	640	503	576	537	602	517
Std. Error			6	4	15	6	5
Sample Size	1	1	188	36	4	4	234
Females			176,798	19,849	3,231	462	200,340
Percent			57.34	6.44	1.05	.15	64.97
Mean Length			477	536	485	535	483
Std. Error			1	5	6		2
Sample Size			383	43	7	1	434
Both Sexes	462	462	263,582	36,467	5,077	2,308	308,358
Percent	.15	.15	85.48	11.83	1.65	.75	100.00
Mean Length	330	640	486	554	504	589	495
Std. Error			2	3	6	5	2
Sample Size	1	1	571	79	11	5	668
All Periods Combined							
Males	462	462	410,079	92,598	33,047	7,947	544,595
Percent	.03	.03	30.67	6.92	2.47	.59	40.73
Mean Length	330	640	505	573	514	594	518
Std. Error			2	4	4	6	2
Sample Size	1	1	471	102	29	9	613
Females			616,843	115,284	41,766	18,684	792,577
Percent			46.13	8.62	3.12	1.40	59.27
Mean Length			485	543	492	541	495
Std. Error			1	3	5	8	1
Sample Size			768	127	39	17	951
Both Sexes	462	462	1,026,922	207,882	74,813	26,631	1,337,172
Percent	.03	.03	76.80	15.55	5.59	1.99	100.00
Mean Length	330	640	493	556	502	557	504
Std. Error			1	2	3	5	1
Sample Size	1	1	1,239	229	68	26	1,564

Table 36. Age and sex composition of sockeye salmon estimated catch and escapement in Igushik River, 1987.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
CATCH						
Males	50,532	177,015	3,160	578	15,137	246,422
Percent	7.30	25.58	.46	.08	2.19	35.62
Females	33,560	217,695	2,326		22,652	276,233
Percent	4.85	31.46	.34		3.27	39.92
Both Sexes	84,092	394,710	5,486	578	37,789	522,655
Percent	12.15	57.05	.79	.08	5.46	75.54
ESCAPEMENT						
Males	29,781	40,186	1,994	138	5,410	77,509
Percent	4.30	5.81	.29	.02	.78	11.20
Females	33,742	49,344	1,715		6,926	91,727
Percent	4.88	7.13	.25		1.00	13.26
Both Sexes	63,523	89,530	3,709	138	12,336	169,236
Percent	9.18	12.94	.54	.02	1.78	24.46
CATCH AND ESCAPEMENT						
Males	80,313	217,201	5,154	716	20,547	323,931
Percent	11.61	31.39	.74	.10	2.97	46.82
Females	67,302	267,039	4,041		29,578	367,960
Percent	9.73	38.60	.58		4.27	53.18
Both Sexes	147,615	484,240	9,195	716	50,125	691,891
Percent	21.34	69.99	1.33	.10	7.24	100.00

Table 37. Daily sockeye salmon escapement counts, Igushik River, 1987.

Date	Daily Count	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 27	1,572	1,572	.93	.93
28	2,070	3,642	1.22	2.15
29	6,510	10,152	3.85	6.00
30	3,366	13,518	1.99	7.99
July 1	6,498	20,016	3.84	11.83
2	9,048	29,064	5.35	17.17
3	7,212	36,276	4.26	21.44
4	12,768	49,044	7.54	28.98
5	9,564	58,608	5.65	34.63
6	3,378	61,986	2.00	36.63
7	5,112	67,098	3.02	39.65
8	7,914	75,012	4.68	44.32
9	4,794	79,806	2.83	47.16
10	8,190	87,996	4.84	52.00
11	4,872	92,868	2.88	54.87
12	3,642	96,510	2.15	57.03
13	4,746	101,256	2.80	59.83
14	5,604	106,860	3.31	63.14
15	4,212	111,072	2.49	65.63
16	3,768	114,840	2.23	67.86
17	3,840	118,680	2.27	70.13
18	9,012	127,692	5.33	75.45
19	10,494	138,186	6.20	81.65
20	8,832	147,018	5.22	86.87
21	7,824	154,842	4.62	91.49
22	4,878	159,720	2.88	94.38
23	5,328	165,048	3.15	97.53
24	2,982	168,030	1.76	99.29
25	978	169,008	.58	99.87
26	228	169,236	.13	100.00

Table 38. Age, sex, and size composition of sockeye salmon escapement in Igushik River, 1987.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/27-7/05						
Males	11,863	13,858	1,175		1,879	28,775
Percent	20.24	23.65	2.00		3.21	49.10
Mean Length	520	596	526		590	561
Std. Error	2	2	9		5	2
Sample Size	101	118	10		16	245
Females	7,987	19,262	235		2,349	29,833
Percent	13.63	32.87	.40		4.01	50.90
Mean Length	499	567	548		557	548
Std. Error	3	2	27		5	1
Sample Size	68	164	2		20	254
Both Sexes	19,850	33,120	1,410		4,228	58,608
Percent	33.87	56.51	2.41		7.21	100.00
Mean Length	511	579	530		572	554
Std. Error	2	1	8		4	1
Sample Size	169	282	12		36	499
Sample Period 2 7/06-7/11						
Males	5,413	7,790	330		990	14,523
Percent	15.80	22.74	.96		2.89	42.39
Mean Length	526	599	546		600	571
Std. Error	2	2	12		6	2
Sample Size	82	118	5		15	220
Females	6,733	11,486	66		1,452	19,737
Percent	19.65	33.53	.19		4.24	57.61
Mean Length	496	567	480		561	542
Std. Error	2	2			5	2
Sample Size	102	174	1		22	299
Both Sexes	12,146	19,276	396		2,442	34,260
Percent	35.45	56.26	1.16		7.13	100.00
Mean Length	509	580	535		577	554
Std. Error	1	1	10		4	1
Sample Size	184	292	6		37	519

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Table 38. (p 2 of 3)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 3 7/12-7/17						
Males	5,322	4,311	213		745	10,591
Percent	20.62	16.70	.83		2.89	41.03
Mean Length	523	595	524		596	558
Std. Error	2	3	13		5	2
Sample Size	100	81	4		14	199
Females	7,557	6,440	585		639	15,221
Percent	29.28	24.95	2.27		2.48	58.97
Mean Length	487	559	489		559	520
Std. Error	1	2	8		6	2
Sample Size	142	121	11		12	286
Both Sexes	12,879	10,751	798		1,384	25,812
Percent	49.90	41.65	3.09		5.36	100.00
Mean Length	502	573	498		579	536
Std. Error	1	2	7		4	1
Sample Size	242	202	15		26	485
Sample Period 4 7/18-7/26						
Males	7,183	14,227	276	138	1,796	23,620
Percent	14.21	28.14	.55	.27	3.55	46.72
Mean Length	522	600	578	510	598	575
Std. Error	4	3	48		7	2
Sample Size	52	103	2	1	13	171
Females	11,465	12,156	829		2,486	26,936
Percent	22.68	24.04	1.64		4.92	53.28
Mean Length	495	562	497		565	532
Std. Error	3	3	10		5	2
Sample Size	83	88	6		18	195
Both Sexes	18,648	26,383	1,105	138	4,282	50,556
Percent	36.89	52.19	2.19	.27	8.47	100.00
Mean Length	506	582	517	510	579	552
Std. Error	2	2	14		4	1
Sample Size	135	191	8	1	31	366

-Continued-

Table 38. (p 3 of 3)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
All Periods Combined						
Males	29,781	40,186	1,994	138	5,410	77,509
Percent	17.60	23.75	1.18	.08	3.20	45.80
Mean Length	522	598	536	510	595	567
Std. Error	1	1	7		3	1
Sample Size	335	420	21	1	58	835
Females	33,742	49,344	1,715		6,926	91,727
Percent	19.94	29.16	1.01		4.09	54.20
Mean Length	494	565	500		561	537
Std. Error	1	1	6		3	1
Sample Size	395	547	20		72	1,034
Both Sexes	63,523	89,530	3,709	138	12,336	169,236
Percent	37.54	52.90	2.19	.08	7.29	100.00
Mean Length	507	579	520	510	576	551
Std. Error	1	1	5		2	1
Sample Size	730	967	41	1	130	1,869

Table 39. Age and sex composition of sockeye salmon estimated catch and escapement in Nushagak River, 1987.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
CATCH						
Males	93,734	312,686	2,366	2,468	15,761	427,015
Percent	6.61	22.05	.17	.17	1.11	30.12
Females	15,961	558,481	1,078	8,845	18,496	602,861
Percent	1.13	39.39	.08	.62	1.30	42.52
Both Sexes	109,695	871,167	3,444	11,313	34,257	1,029,876
Percent	7.74	61.44	.25	.79	2.42	72.63
ESCAPEMENT						
Males	78,513	90,591	2,265	755	6,794	178,918
Percent	5.54	6.39	.16	.05	.48	12.62
Females	24,913	170,614	2,265	3,775	7,549	209,116
Percent	1.76	12.03	.16	.27	.53	14.75
Both Sexes	103,426	261,205	4,530	4,530	14,343	388,034
Percent	7.29	18.42	.32	.32	1.01	27.37
CATCH AND ESCAPEMENT						
Males	172,247	403,277	4,631	3,223	22,555	605,933
Percent	12.15	28.44	.33	.23	1.59	42.73
Females	40,874	729,095	3,343	12,620	26,045	811,977
Percent	2.88	51.42	.24	.89	1.84	57.27
Both Sexes	213,121	1,132,372	7,974	15,843	48,600	1,417,910
Percent	15.03	79.86	.56	1.12	3.43	100.00

Table 40. Daily sockeye salmon escapement counts, Nushagak River, 1987.

Date	Daily Count[a]	Accumulative Count	Daily Percent of Total	Accumulative Percent
June 17	332	332	0.09	0.09
18	540	872	0.14	0.22
19	301	1,173	0.08	0.30
20	217	1,389	0.06	0.36
21	115	1,504	0.03	0.39
22	145	1,648	0.04	0.42
23	154	1,803	0.04	0.46
24	740	2,542	0.19	0.66
25	3,275	5,817	0.84	1.50
26	4,456	10,273	1.15	2.65
27	2,145	12,419	0.55	3.20
28	4,039	16,458	1.04	4.24
29	16,046	32,503	4.14	8.38
30	47,423	79,927	12.22	20.60
July 1	66,559	146,485	17.15	37.75
2	84,275	230,761	21.72	59.47
3	39,477	270,238	10.17	69.64
4	19,411	289,648	5.00	74.65
5	9,143	298,791	2.36	77.00
6	5,523	304,314	1.42	78.42
7	5,930	310,244	1.53	79.95
8	18,647	328,891	4.81	84.76
9	22,710	351,600	5.85	90.61
10	2,918	354,518	0.75	91.36
11	1,025	355,543	0.26	91.63
12	1,370	356,913	0.35	91.98
13	1,095	358,008	0.28	92.26
14	899	358,907	0.23	92.49
15	2,286	361,193	0.59	93.08
16	2,044	363,236	0.53	93.61
17	1,932	365,168	0.50	94.11
18	2,316	367,484	0.60	94.70
19	2,121	369,605	0.55	95.25

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Table 40. (p 2 of 2)

Date	Daily Count	Accumulative Count	Daily Percent of Total	Accumulative Percent
July 20	2,920	372,526	0.75	96.00
21	5,435	377,961	1.40	97.40
22	2,197	380,158	0.57	97.97
23	1,082	381,240	0.28	98.25
24	1,312	382,552	0.34	98.59
25	886	383,438	0.23	98.82
26	896	384,334	0.23	99.05
27	832	385,167	0.21	99.26
28	530	385,696	0.14	99.40
29	400	386,097	0.10	99.50
30	462	386,559	0.12	99.62
31	289	386,848	0.07	99.69
Aug. 1	276	387,124	0.07	99.77
2	311	387,435	0.08	99.85
3	248	387,683	0.06	99.91
4	23	387,706	0.01	99.92
5	61	387,767	0.02	99.93
6	103	387,870	0.03	99.96
7	50	387,920	0.01	99.97
8	20	387,941	0.01	99.98
9	8	387,949	0.00	99.98
10	13	387,962	0.00	99.98
11	8	387,970	0.00	99.98
12	11	387,980	0.00	99.99
13	14	387,995	0.00	99.99
14	7	388,002	0.00	99.99
15	12	388,014	0.00	100.00
16	9	388,023	0.00	100.00
17	10	388,033	0.00	100.00

[a] Escapement numbers represent sonar counts made at Portage Creek.

Table 41. Age, sex, and size composition of sockeye salmon escapement in Nushagak River (Portage Creek), 1987.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
All Periods Combined						
Males	78,513	90,591	2,265	755	6,794	178,918
Percent	20.23	23.35	.58	.19	1.75	46.11
Mean Length	500	583	492	615	602	546
Std. Error	4	3	33		7	2
Sample Size	104	120	3	1	9	237
Females	24,913	170,613	2,265	3,775	7,549	209,115
Percent	6.42	43.97	.58	.97	1.95	53.89
Mean Length	503	560	507	598	549	553
Std. Error	4	1	12	13	5	2
Sample Size	33	226	3	5	10	277
Both Sexes	103,426	261,204	4,530	4,530	14,343	388,033
Percent	26.65	67.31	1.17	1.17	3.70	100.00
Mean Length	501	568	500	601	574	550
Std. Error	3	1	17	11	4	1
Sample Size	137	346	6	6	19	514

Table 42. Age,sex, and size composition of chinook salmon commercial catch in Nushagak District, 1987.

	Age Group				
	1.2	1.3	1.4	1.5	Total
Sample Period 1 6/01-6/04					
Males	18	833	1,921	72	2,844
Percent	.34	15.86	36.57	1.37	54.14
Mean Length	596	741	833	909	806
Std. Error		8	6	43	5
Sample Size	1	46	106	4	157
Mean Weight	4.08	7.54	9.37	17.23	9.00
Std. Error		.48	.37		.29
Sample Size	1	15	16	1	33
Females		254	1,956	199	2,409
Percent		4.84	37.24	3.79	45.86
Mean Length		737	855	911	847
Std. Error		12	4	11	4
Sample Size		14	108	11	133
Mean Weight		7.75	10.62	12.47	10.47
Std. Error		.48	.56	1.36	.47
Sample Size		5	25	2	32
Both Sexes	18	1,087	3,877	271	5,253
Percent	.34	20.69	73.81	5.16	100.00
Mean Length	596	740	844	910	825
Std. Error		7	4	14	3
Sample Size	1	60	214	15	290
Mean Weight	4.08	7.59	10.00	13.73	9.67
Std. Error		.39	.34	1.36	.27
Sample Size	1	20	41	3	65

-Continued-

Table 42. (p 2 of 4)

	Age Group				
	1.2	1.3	1.4	1.5	Total
Sample Period 2 6/25-6/30					
Males	4,463	3,846	4,345	264	12,918
Percent	22.79	19.64	22.19	1.35	65.97
Mean Length	553	707	856	950	709
Std. Error	4	7	6	11	3
Sample Size	152	131	148	9	440
Mean Weight	3.18	6.26	11.41	15.48	7.12
Std. Error	.25	.32	.69	.84	.27
Sample Size	26	34	32	5	97
Females	147	1,791	4,463	264	6,665
Percent	.75	9.15	22.79	1.35	34.03
Mean Length	612	747	861	910	827
Std. Error	14	10	5	10	4
Sample Size	5	61	152	9	227
Mean Weight	4.03	6.61	10.72	11.75	9.51
Std. Error	.48	.72	.38	.95	.32
Sample Size	3	16	44	2	65
Both Sexes	4,610	5,637	8,808	528	19,583
Percent	23.54	28.79	44.98	2.70	100.00
Mean Length	555	720	859	930	749
Std. Error	4	6	4	7	3
Sample Size	157	192	300	18	667
Mean Weight	3.21	6.37	11.06	13.62	7.93
Std. Error	.25	.32	.39	.63	.21
Sample Size	29	50	76	7	162

-Continued-

Table 42. (p 3 of 4)

	Age Group				
	1.2	1.3	1.4	1.5	Total
Sample Period 3 7/01-8/04					
Males	2,870	3,575	5,688	101	12,234
Percent	12.61	15.71	25.00	.44	53.76
Mean Length	527	698	879	866	743
Std. Error	6	11	7	66	5
Sample Size	57	71	113	2	243
Mean Weight	2.54	6.21	13.06	14.06	8.60
Std. Error	.15	.64	.58		.33
Sample Size	11	16	21	1	49
Females	50	1,057	9,063	352	10,522
Percent	.22	4.64	39.83	1.55	46.24
Mean Length	610	779	873	948	865
Std. Error		15	4	21	4
Sample Size	1	21	180	7	209
Mean Weight		8.48	11.44	14.62	11.25
Std. Error		.50	.37	1.52	.33
Sample Size		7	29	2	38
Both Sexes	2,920	4,632	14,751	453	22,756
Percent	12.83	20.36	64.82	1.99	100.00
Mean Length	528	716	876	930	800
Std. Error	6	9	4	22	3
Sample Size	58	92	293	9	452
Mean Weight	2.54	6.73	12.06	14.50	9.82
Std. Error	.15	.51	.32	1.52	.23
Sample Size	11	23	50	3	87

-Continued-

Table 42. (p 4 of 4)

	Age Group				
	1.2	1.3	1.4	1.5	Total
All Periods Combined					
Males	7,351	8,254	11,954	437	27,996
Percent	15.45	17.34	25.12	.92	58.83
Mean Length	543	706	863	924	734
Std. Error	3	6	4	18	3
Sample Size	210	248	367	15	840
Mean Weight	2.93	6.37	11.87	15.44	7.96
Std. Error	.16	.32	.38	.84	.19
Sample Size	38	65	69	7	179
Females	197	3,102	15,482	815	19,596
Percent	.41	6.52	32.53	1.71	41.17
Mean Length	611	757	867	927	850
Std. Error	14	8	3	10	2
Sample Size	6	96	440	27	569
Mean Weight	4.03	7.34	11.13	13.17	10.56
Std. Error	.48	.45	.25	.80	.22
Sample Size	3	28	98	6	135
Both Sexes	7,548	11,356	27,436	1,252	47,592
Percent	15.86	23.86	57.65	2.63	100.00
Mean Length	544	720	866	926	782
Std. Error	3	5	2	9	2
Sample Size	216	344	807	42	1,409
Mean Weight	2.95	6.63	11.45	13.96	9.03
Std. Error	.16	.26	.22	.64	.14
Sample Size	41	93	167	13	314

Table 43. Daily escapement counts of chinook, chum, pink, and coho salmon, Nushagak River (Portage Creek), 1987.

	Chinook		Chum		Pink		Coho	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6/06	45	45	9	9	0	0	0	0
6/07	153	198	19	28	0	0	0	0
6/08	158	356	22	50	0	0	0	0
6/09	1,676	2,032	152	202	0	0	0	0
6/10	1,441	3,473	150	352	0	0	0	0
6/11	640	4,113	63	415	0	0	0	0
6/12	760	4,873	127	542	0	0	0	0
6/13	446	5,319	68	610	0	0	0	0
6/14	507	5,826	53	663	0	0	0	0
6/15	657	6,483	57	720	0	0	0	0
6/16	366	6,849	37	757	0	0	0	0
6/17	2,048	8,897	786	1,543	0	0	0	0
6/18	2,943	11,840	1,313	2,856	0	0	0	0
6/19	1,407	13,247	751	3,607	0	0	0	0
6/20	883	14,130	553	4,160	0	0	0	0
6/21	678	14,808	274	4,434	0	0	0	0
6/22	724	15,532	357	4,791	0	0	0	0
6/23	611	16,143	394	5,185	0	0	0	0
6/24	14,082	30,225	8,520	13,705	0	0	0	0
6/25	10,196	40,421	24,484	38,189	0	0	0	0
6/26	2,340	42,761	9,730	47,919	0	0	0	0
6/27	1,296	44,057	4,533	52,452	0	0	0	0
6/28	2,215	46,272	8,737	61,189	0	0	0	0
6/29	5,444	51,716	2,225	63,414	0	0	0	0
6/30	2,179	53,895	16,250	79,664	0	0	0	0
7/01	7,369	61,264	26,278	105,942	0	0	0	0
7/02	1,612	62,876	12,608	118,550	0	0	0	0
7/03	3,448	66,324	5,688	124,238	0	0	0	0
7/04	1,581	67,905	2,335	126,573	0	0	0	0
7/05	781	68,686	1,246	127,819	0	0	0	0
7/06	399	69,085	472	128,291	0	0	0	0
7/07	565	69,650	440	128,731	0	0	0	0
7/08	1,922	71,572	1,311	130,042	0	0	0	0
7/09	1,508	73,080	2,532	132,574	0	0	0	0
7/10	235	73,315	574	133,148	0	0	0	0
7/11	462	73,777	301	133,449	0	0	0	0
7/12	641	74,418	333	133,782	0	0	0	0
7/13	502	74,920	295	134,077	0	0	0	0
7/14	407	75,327	258	134,335	0	0	0	0
7/15	1,074	76,401	540	134,875	0	0	0	0
7/16	937	77,338	552	135,427	0	0	0	0
7/17	890	78,228	509	135,936	0	0	0	0
7/18	1,069	79,297	606	136,542	0	0	0	0

-Continued-

Table 43. (p 2 of 2)

Date	Chinook		Chum		Pink		Coho	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
7/19	947	80,244	650	137,192	0	0	0	0
7/20	743	80,987	1,037	138,229	0	0	177	177
7/21	1,399	82,386	1,876	140,105	0	0	320	497
7/22	509	82,895	954	141,059	0	0	163	660
7/23	224	83,119	561	141,620	0	0	96	756
7/24	269	83,388	690	142,310	0	0	118	874
7/25	168	83,556	513	142,823	0	0	88	962
7/26	157	83,713	564	143,387	0	0	97	1,059
7/27	158	83,871	480	143,867	0	0	82	1,141
7/28	90	83,961	341	144,208	0	0	58	1,199
7/29	68	84,029	259	144,467	0	0	44	1,243
7/30	77	84,106	303	144,770	0	0	52	1,295
7/31	51	84,157	180	144,950	0	0	31	1,326
8/01	44	84,201	190	145,140	0	0	33	1,359
8/02	61	84,262	174	145,314	0	0	30	1,389
8/03	47	84,309	142	145,456	0	0	24	1,413
8/04	0	84,309	161	145,617	58	58	1,529	2,942
8/05	0	84,309	478	146,095	178	236	4,594	7,536
8/06	0	84,309	686	146,781	240	476	6,479	14,015
8/07	0	84,309	260	147,041	80	556	2,379	16,394
8/08	0	84,309	101	147,142	30	586	917	17,311
8/09	0	84,309	45	147,187	14	600	414	17,725
8/10	0	84,309	47	147,234	15	615	489	18,214
8/11	0	84,309	31	147,265	10	625	320	18,534
8/12	0	84,309	19	147,284	4	629	179	18,713
8/13	0	84,309	21	147,305	3	632	193	18,906
8/14	0	84,309	23	147,328	7	639	238	19,144
8/15	0	84,309	38	147,366	11	650	387	19,531
8/16	0	84,309	37	147,403	12	662	387	19,918
8/17	0	84,309	30	147,433	9	671	302	20,220

Table 44. Age, sex, and size composition of chinook salmon escapement in Nushagak River (Portage Creek, 1987.

	Age Group[a]					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined						
Males	680	7,026	15,638	14,731	453	38,528
Percent	.81	8.33	18.55	17.47	.54	45.70
Mean Length	463	565	726	858	938	745
Std. Error	25	16	10	11	37	7
Sample Size	3	31	69	65	2	170
Females		1,813	6,572	36,263	1,133	45,781
Percent		2.15	7.80	43.01	1.34	54.30
Mean Length		575	794	848	887	830
Std. Error		38	12	4	25	4
Sample Size		8	29	160	5	202
Both Sexes	680	8,839	22,210	50,994	1,586	84,309
Percent	.81	10.48	26.34	60.48	1.88	100.00
Mean Length	463	567	746	850	901	791
Std. Error	25	15	8	5	21	4
Sample Size	3	39	98	225	7	372

[a] Samples for estimates of age composition collected from carcasses on the spawning grounds (Stuyahok, Koktuli, and upper Nushagak Rivers).

Table 45. Age, sex, and size composition of chum salmon commercial catch in Nushagak District, 1987.

	Age Group			
	0.3	0.4	0.5	Total
Sample Period 1 6/01-6/30				
Males	3,951	17,050	3,951	24,952
Percent	4.82	20.81	4.82	30.46
Mean Length	583	603	627	604
Std. Error	4	3	5	2
Sample Size	19	82	19	120
Mean Weight	2.97	3.78	3.40	3.59
Std. Error	.39	.12	.29	.11
Sample Size	3	18	4	25
Females	15,179	37,635	4,159	56,973
Percent	18.53	45.94	5.08	69.54
Mean Length	562	579	591	575
Std. Error	3	2	4	1
Sample Size	73	181	20	274
Mean Weight	3.03	3.03	3.45	3.06
Std. Error	.15	.07	.19	.06
Sample Size	17	40	8	65
Both Sexes	19,130	54,685	8,110	81,925
Percent	23.35	66.75	9.90	100.00
Mean Length	566	586	609	584
Std. Error	3	1	3	1
Sample Size	92	263	39	394
Mean Weight	3.02	3.26	3.43	3.22
Std. Error	.15	.06	.17	.06
Sample Size	20	58	12	90

-Continued-

Table 45. (p 2 of 4)

	Age Group			
	0.3	0.4	0.5	Total
Sample Period 2 7/01-7/06				
Males	6,338	16,224		22,562
Percent	11.11	28.44		39.56
Mean Length	569	598		590
Std. Error	6	4		3
Sample Size	25	64		89
Mean Weight	3.20	3.73		3.58
Std. Error	.15	.14		.11
Sample Size	7	19		26
Females	13,689	20,534	254	34,477
Percent	24.00	36.00	.45	60.44
Mean Length	560	578	612	571
Std. Error	3	3		2
Sample Size	54	81	1	136
Mean Weight	2.83	3.08	4.08	2.99
Std. Error	.14	.10		.08
Sample Size	10	17	1	28
Both Sexes	20,027	36,758	254	57,039
Percent	35.11	64.44	.45	100.00
Mean Length	563	587	612	579
Std. Error	3	2		2
Sample Size	79	145	1	225
Mean Weight	2.95	3.37	4.08	3.22
Std. Error	.11	.08		.06
Sample Size	17	36	1	54

-Continued-

Table 45. (p 3 of 4)

	Age Group			
	0.3	0.4	0.5	Total
Sample Period 3	7/07-8/04			
Males	28,491	58,764		87,255
Percent	10.77	22.22		33.00
Mean Length	569	588		582
Std. Error	4	3		3
Sample Size	32	66		98
Mean Weight	3.39	3.49		3.46
Std. Error	.07	.18		.13
Sample Size	4	15		19
Females	94,377	81,022	1,781	177,180
Percent	35.69	30.64	.67	67.00
Mean Length	545	566	560	555
Std. Error	2	2	24	1
Sample Size	106	91	2	199
Mean Weight	2.64	3.22	3.53	2.91
Std. Error	.08	.14		.08
Sample Size	20	19	1	40
Both Sexes	122,868	139,786	1,781	264,435
Percent	46.46	52.86	.67	100.00
Mean Length	551	575	560	564
Std. Error	2	2	24	1
Sample Size	138	157	2	297
Mean Weight	2.81	3.33	3.53	3.09
Std. Error	.07	.11		.07
Sample Size	24	34	1	59

-Continued-

Table 45. (p 4 of 4)

	Age Group			
	0.3	0.4	0.5	Total
All Periods Combined				
Males	38,780	92,038	3,951	134,769
Percent	9.61	22.82	.98	33.41
Mean Length	571	593	627	587
Std. Error	3	2	5	2
Sample Size	76	212	19	307
Mean Weight	3.32	3.59	3.40	3.50
Std. Error	.07	.12	.29	.09
Sample Size	14	52	4	70
Females	123,245	139,191	6,194	268,630
Percent	30.55	34.50	1.54	66.59
Mean Length	549	571	583	561
Std. Error	2	1	8	1
Sample Size	233	353	23	609
Mean Weight	2.71	3.15	3.50	2.95
Std. Error	.07	.09	.19	.05
Sample Size	47	76	10	133
Both Sexes	162,025	231,229	10,145	403,399
Percent	40.16	57.32	2.51	100.00
Mean Length	554	580	600	570
Std. Error	1	1	5	1
Sample Size	309	565	42	916
Mean Weight	2.85	3.32	3.46	3.14
Std. Error	.06	.07	.17	.05
Sample Size	61	128	14	203

Table 46. Age, sex, and size composition of chum salmon escapement in Nushagak River, (Portage Creek), 1987.

	Age Group			
	0.3	0.4	0.5	Total
All Periods Combined				
Males	13,332	47,837	784	61,953
Percent	9.04	32.45	.53	42.02
Mean Length	570	615	593	605
Std. Error	7	4		3
Sample Size	17	61	1	79
Females	35,290	49,406	784	85,480
Percent	23.94	33.51	.53	57.98
Mean Length	557	588	617	575
Std. Error	4	4		4
Sample Size	45	63	1	109
Both Sexes	48,622	97,243	1,568	147,433
Percent	32.98	65.96	1.06	100.00
Mean Length	560	601	605	588
Std. Error	3	3		2
Sample Size	62	124	2	188

Table 47. Age, sex, and size composition of coho salmon escapement in Nushagak River, (Portage Creek), 1987.

	Age Group			
	1.1	2.1	3.1	Total
All Periods Combined				
Males	4,246	9,706	809	14,761
Percent	21.00	48.00	4.00	73.00
Mean Length	471	494	508	488
Std. Error	16	9	27	7
Sample Size	21	48	4	73
Females	607	4,852		5,459
Percent	3.00	24.00		27.00
Mean Length	507	558		552
Std. Error	58	10		4
Sample Size	3	24		27
Both Sexes	4,853	14,558	809	20,220
Percent	24.00	72.00	4.00	100.00
Mean Length	476	515	508	506
Std. Error	15	7	27	6
Sample Size	24	72	4	100

Table 48. Commercial salmon catch by period and species, Togiak District, 1987.

Period[a]	Sockeye	King	Chum	Pink	Coho	Total
6/02		2				2
6/08	2	47	1			50
6/09	2	99	2			103
6/10	5	77	4			86
6/11	3	147	13			163
6/15	147	137	38			322
6/16	493	1,101	435			2,029
6/17	757	1,181	1,067			3,005
6/18	415	565	1,022			2,002
6/19	140	215	1,085			1,440
6/20	23	16	322			361
6/22	3,300	712	967			4,979
6/23	2,987	1,626	2,666			7,279
6/24	2,291	1,415	2,750			6,456
6/25	3,204	1,288	3,880			8,372
6/26	148	152	654			954
6/27	165	35	289			489
6/29	942	378	294			1,614
6/30	10,164	1,268	4,231			15,663
7/01	14,882	780	6,932			22,594
7/02	8,856	436	12,585			21,877
7/03	4,690	161	13,552			18,403
7/04	3,317	60	7,019			10,396
7/06	22,140	1,026	20,271	1		43,438
7/07	31,773	1,298	23,007	1		56,079
7/08	29,809	1,065	31,508	1		62,383
7/09	13,925	438	18,500			32,863
7/10	1,719	20	5,710			7,449
7/11	2,072	17	9,408			11,497
7/13	17,720	397	22,323			40,440
7/14	24,575	472	43,942			68,989
7/15	24,040	223	27,390			51,653
7/16	5,425	38	7,928			13,391
7/17	2,118	21	4,330			6,469
7/18	349	5	665			1,019

-Continued-

Table 48. (p 2 of 2).

Period[a]	Sockeye	King	Chum	Pink	Coho	Total
7/20	14,222	79	22,754			37,055
7/21	17,468	103	28,722	1		46,294
7/22	17,099	109	26,693			43,901
7/23	9,090	73	8,642	3	27	17,835
7/24	8,282	33	8,661		8	16,984
7/25	979	3	1,318			2,300
7/27	7,051	21	10,257			17,329
7/28	9,527	68	13,295	4	3	22,897
7/29	7,188	107	9,795	5	3	17,098
7/30	3,672	21	3,825		1	7,519
7/31	3,113	16	1,831		2	4,962
8/01	1,913	6	532			2,451
8/03	1,244	8	2,876		13	4,141
8/04	1,703	11	2,761	2	16	4,493
8/05	703	4	739		20	1,466
8/06	779	6	721	1	42	1,549
8/07	1,328	12	1,206		35	2,581
8/08	572	6	363		6	947
8/10	807	6	1,208		476	2,497
8/13	546	8	696	5	704	1,959
Total	339,884	17,618	421,685	24	1,356	780,567
Percent of Dist. Catch	43.5	2.3	54.0	0.0	0.2	100.0

[a] See Table 1 for emergency order adjustments in the regular weekly fishing schedule.

Table 49. Commercial salmon catch by period and species, Togiak Section, Togiak District, 1987.

Period[a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/02		2				2
6/08	2	47	1			50
6/09	2	99	1			102
6/10	5	77	4			86
6/11	3	147	13			163
6/15	147	125	38			310
6/16	199	967	340			1,506
6/17	484	1,004	855			2,343
6/18	146	306	335			787
6/22	1,054	498	434			1,986
6/23	1,755	1,481	1,177			4,413
6/24	1,182	1,188	1,316			3,686
6/25	1,554	1,040	1,642			4,236
6/29	942	378	294			1,614
6/30	10,164	1,268	4,231			15,663
7/01	14,882	780	6,932			22,594
7/02	5,988	309	4,500			10,797
7/06	17,346	923	16,454			34,723
7/07	23,406	1,209	16,809			41,424
7/08	22,471	982	21,383			44,836
7/09	10,715	388	12,048			23,151
7/13	15,422	388	18,238			34,048
7/14	20,506	457	37,165			58,128
7/15	19,989	217	22,772			42,978
7/16	4,584	35	7,249			11,868
7/20	13,686	78	22,044			35,808
7/21	17,129	101	28,001	1		45,232
7/22	15,540	102	23,855			39,497
7/23	8,919	73	8,169	3	27	17,191
7/24	8,216	33	8,605		8	16,862
7/25	979	3	1,318		35	2,335
7/27	5,940	19	9,193			15,152
7/28	8,309	63	12,743	4	3	21,122
7/29	5,491	104	8,866	4	2	14,467
7/30	2,831	19	3,308		1	6,159
7/31	2,138	16	1,497		2	3,653

-Continued-

Table 49. (p 2 of 2).

Period[a]	Sockeye	Chinook	Chum	Pink	Coho	Total
8/01	1,888	6	531		42	2,467
8/03	1,244	8	2,876		13	4,141
8/04	1,703	11	2,761	2	16	4,493
8/05	703	4	739		20	1,466
8/06	779	6	721	1	42	1,549
8/07	1,328	12	1,206		35	2,581
8/08	483	6	223		6	718
8/10	794	6	1,202		260	2,262
8/13	529	8	691	5	580	1,813
Total	271,577	14,993	312,780	20	1,092	600,462
Percent of Section Catch	45.2	2.5	52.1	0.0	0.2	100.0

[a] Togiak Section opened four days per week. See Table 1 for emergency order adjustments in weekly fishing periods.

Table 50. Age and sex composition of sockeye salmon catch and escapement in Togiak Section, 1987.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
CATCH[a]							
Males	4	48,007	66,740	3,920	4	3,645	122,320
Percent	.00[c]	9.21	12.80	.75	.00[c]	.70	23.47
Females	4	33,352	105,879	2,300	461	7,261	149,257
Percent	.00[c]	6.40	20.31	.44	.09	1.39	28.63
Both Sexes	8	81,359	172,619	6,220	465	10,906	271,577
Percent	.00[c]	15.61	33.12	1.19	.09	2.09	52.10
ESCAPEMENT[b]							
Males	718	74,430	29,315	3,565		2,539	110,567
Percent	.14	14.28	5.62	.68		.49	21.21
Females	1,549	102,721	30,294	3,114		1,431	139,109
Percent	.30	19.71	5.81	.60		.27	26.69
Both Sexes	2,267	177,151	59,609	6,679		3,970	249,676
Percent	.43	33.99	11.44	1.28		.76	47.90
CATCH AND ESCAPEMENT							
Males	722	122,437	96,055	7,485	4	6,184	232,887
Percent	.14	23.49	18.43	1.44	.00[c]	1.19	44.68
Females	1,553	136,073	136,173	5,414	461	8,692	288,366
Percent	.30	26.10	26.12	1.04	.09	1.67	55.32
Both Sexes	2,275	258,510	232,228	12,899	465	14,876	521,253
Percent	.44	49.59	44.55	2.47	.09	2.85	100.00

[a] Catch represents fish harvested in Togiak Section.

[b] Escapement represents fish returning to Togiak Lake only.

[c] Fish present, but represent less than .01%.

Table 51. Age, sex, and size composition of sockeye salmon commercial catch in Togiak Section, Togiak District, 1987.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/01-6/20							
Males	4	11	314		4	107	440
Percent	.40	1.11	31.78		.40	10.83	44.53
Mean Length	579	519	594		605	602	594
Std. Error		19	3			4	3
Sample Size	1	3	85		1	29	119
Mean Weight	3.62		3.68			3.61	3.66
Std. Error			.11			.14	.09
Sample Size	1		22			10	33
Females	4	7	415		4	118	548
Percent	.40	.71	42.00		.40	11.94	55.47
Mean Length	596	553	565		635	569	566
Std. Error		48	2			4	2
Sample Size	1	2	112		1	32	148
Mean Weight	3.17		3.08			2.76	3.01
Std. Error			.11			.12	.09
Sample Size	1		21			7	29
Both Sexes	8	18	729		8	225	988
Percent	.81	1.82	73.79		.81	22.77	100.00
Mean Length	588	532	578		620	585	579
Std. Error		22	2			3	2
Sample Size	2	5	197		2	61	267
Mean Weight	3.40		3.34			3.16	3.30
Std. Error			.08			.09	.06
Sample Size	2		43			17	62

-Continued-

Table 51. (p 2 of 4)

	Age Group					
	0.3	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 2 6/21-6/30							
Males		1,030	4,886	33		299	6,248
Percent		6.19	29.34	.20		1.80	37.52
Mean Length		526	590	505		597	579
Std. Error		4	2			10	2
Sample Size		31	147	1		9	188
Mean Weight		2.57	3.69	2.04		3.71	3.50
Std. Error		.08	.08			.13	.07
Sample Size		7	35	1		5	48
Females		631	8,941	33	133	665	10,403
Percent		3.79	53.70	.20	.80	3.99	62.48
Mean Length		511	569	534	600	573	566
Std. Error		5	1		9	4	1
Sample Size		19	269	1	4	20	313
Mean Weight		2.52	3.03		3.40	3.05	3.00
Std. Error		.24	.04			.05	.04
Sample Size		3	70		1	5	79
Both Sexes		1,661	13,827	66	133	964	16,651
Percent		9.98	83.04	.40	.80	5.79	100.00
Mean Length		521	577	520	600	581	571
Std. Error		3	1		9	4	1
Sample Size		50	416	2	4	29	501
Mean Weight		2.55	3.26	2.04	3.40	3.25	3.19
Std. Error		.10	.04			.05	.04
Sample Size		10	105	1	1	10	127

-Continued-

Table 51. (p 3 of 4)

	Age Group					
	0.3	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 3 7/01-8/13							
Males		46,966	61,540	3,887		3,239	115,632
Percent		18.50	24.23	1.53		1.28	45.54
Mean Length		531	592	528		576	565
Std. Error		2	2	5		10	1
Sample Size		145	190	12		10	357
Mean Weight		2.68	3.95	2.55		3.85	3.38
Std. Error		.05	.08	.17		.14	.05
Sample Size		36	38	4		2	80
Females		32,714	96,523	2,267	324	6,478	138,306
Percent		12.88	38.01	.89	.13	2.55	54.46
Mean Length		506	564	509	605	566	549
Std. Error		3	1	4		5	1
Sample Size		101	298	7	1	20	427
Mean Weight		2.20	3.15	2.49		3.06	2.91
Std. Error		.05	.05			.09	.04
Sample Size		29	78	2		4	113
Both Sexes		79,680	158,063	6,154	324	9,717	253,938
Percent		31.38	62.24	2.42	.13	3.83	100.00
Mean Length		521	575	521	605	569	556
Std. Error		1	1	3		5	1
Sample Size		246	488	19	1	30	784
Mean Weight		2.48	3.46	2.53		3.32	3.13
Std. Error		.04	.04	.17		.07	.03
Sample Size		65	116	6		6	193

-Continued-

Table 51. (p 4 of 4)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
All Periods Combined							
Males	4	48,007	66,740	3,920	4	3,645	122,320
Percent	.00	17.68	24.57	1.44	.00	1.34	45.04
Mean Length	579	531	592	528	605	579	566
Std. Error		2	2	5		9	1
Sample Size	1	179	422	13	1	48	664
Mean Weight	3.62	2.68	3.93	2.55		3.83	3.39
Std. Error		.05	.08	.17		.13	.05
Sample Size	1	43	95	5		17	161
Females	4	33,352	105,879	2,300	461	7,261	149,257
Percent	.00	12.28	38.99	.85	.17	2.67	54.96
Mean Length	596	506	564	509	604	566	551
Std. Error		3	1	4	9	5	1
Sample Size	1	122	679	8	6	72	888
Mean Weight	3.17	2.21	3.14	2.49	3.40	3.05	2.92
Std. Error		.05	.05			.08	.03
Sample Size	1	32	169	2	1	16	221
Both Sexes	8	81,359	172,619	6,220	465	10,906	271,577
Percent	.00	29.96	63.56	2.29	.17	4.02	100.00
Mean Length	588	521	575	521	604	570	557
Std. Error		1	1	3	9	4	1
Sample Size	2	301	1,101	21	7	120	1,552
Mean Weight	3.40	2.48	3.45	2.53	3.40	3.31	3.13
Std. Error		.03	.04	.17		.07	.03
Sample Size	2	75	264	7	1	33	382

Table 52. Daily sockeye salmon escapement counts, Togiak Lake, 1987.

Date	Daily Count[ab]	Accumulative Count	Daily Percent of Total	Accumulative Percent
July 7	1,920	1,920	.77	.77
8	9,060	10,980	3.63	4.40
9	8,202	19,182	3.28	7.68
10	7,548	26,730	3.02	10.71
11	7,356	34,086	2.95	13.65
12	7,404	41,490	2.97	16.62
13	9,546	51,036	3.82	20.44
14	12,294	63,330	4.92	25.36
15	14,844	78,174	5.95	31.31
16	12,492	90,666	5.00	36.31
17	7,464	98,130	2.99	39.30
18	5,070	103,200	2.03	41.33
19	7,422	110,622	2.97	44.30
20	10,758	121,380	4.31	48.61
21	17,682	139,062	7.08	55.69
22	13,932	152,994	5.58	61.27
23	15,594	168,588	6.25	67.52
24	9,948	178,536	3.98	71.50
25	4,716	183,252	1.89	73.39
26	4,362	187,614	1.75	75.14
27	4,020	191,634	1.61	76.75
28	4,692	196,326	1.88	78.63
29	7,788	204,114	3.12	81.75
30	12,780	216,894	5.12	86.87
31	8,142	225,036	3.26	90.13
Aug. 1	4,164	229,200	1.67	91.80
2	3,828	233,028	1.53	93.33
3	2,346	235,374	.94	94.27
4	1,584	236,958	.63	94.90
5	2,754	239,712	1.10	96.01
6	5,040	244,752	2.02	98.02
7	1,272	246,024	.51	98.53
8	1,056	247,080	.42	98.96
9	1,002	248,082	.40	99.36
10	884	248,966	.35	99.71
11	719	249,685	.29	100.00

a Based on aerial surveys, an additional 28,600 sockeye salmon escaped to the Togiak River (10,400 in the mainstem below the tower and 18,200 in tributaries).

b Escapement counts for August 7-11 are extrapolated using the daily mean escapement (1960-86) for those years which data are available.

Table 53. Age, sex, and size composition of sockeye salmon escapement in Togiak Lake, 1987.

	Age Group				
	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 1 7/07-7/13						
Males		18,154	5,205	889	127	24,375
Percent		35.57	10.20	1.74	.25	47.76
Mean Length		532	574	531	560	541
Std. Error		2	5	8		2
Sample Size		143	41	7	1	192
Females		19,551	6,221	762	127	26,661
Percent		38.31	12.19	1.49	.25	52.24
Mean Length		496	548	506	540	509
Std. Error		2	4	12		2
Sample Size		154	49	6	1	210
Both Sexes		37,705	11,426	1,651	254	51,036
Percent		73.88	22.39	3.23	.50	100.00
Mean Length		514	560	520	550	524
Std. Error		1	3	7		1
Sample Size		297	90	13	2	402
Sample Period 2 7/14-7/17						
Males		14,438	4,898	688		20,024
Percent		30.66	10.40	1.46		42.52
Mean Length		531	597	532		547
Std. Error		2	4	7		2
Sample Size		168	57	8		233
Females		22,515	4,125	430		27,070
Percent		47.81	8.76	.91		57.48
Mean Length		496	566	496		507
Std. Error		1	4	11		2
Sample Size		262	48	5		315
Both Sexes		36,953	9,023	1,118		47,094
Percent		78.47	19.16	2.37		100.00
Mean Length		510	583	518		524
Std. Error		1	3	6		1
Sample Size		430	105	13		548

-Continued-

Table 53. (p 2 of 3)

	Age Group					
	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 3 7/18-7/23						
Males		21,387	7,910	732	439	30,468
Percent		30.35	11.23	1.04	.62	43.24
Mean Length		534	593	532	593	550
Std. Error		2	6	3	17	2
Sample Size		146	54	5	3	208
Females	293	31,055	7,031	1,025	586	39,990
Percent	.42	44.08	9.98	1.45	.83	56.76
Mean Length	570	497	566	504	595	511
Std. Error	20	2	6	7	9	2
Sample Size	2	212	48	7	4	273
Both Sexes	293	52,442	14,941	1,757	1,025	70,458
Percent	.42	74.43	21.21	2.49	1.45	100.00
Mean Length	570	512	580	516	594	528
Std. Error	20	1	4	4	9	1
Sample Size	2	358	102	12	7	481
Sample Period 4 7/24-8/11						
Males	718	20,453	11,303	1,256	1,974	35,704
Percent	.89	25.22	13.94	1.55	2.43	44.03
Mean Length	600	540	608	563	605	567
Std. Error	9	3	4	7	10	2
Sample Size	4	114	63	7	11	199
Females	1,256	29,604	12,918	897	718	45,393
Percent	1.55	36.50	15.93	1.11	.89	55.97
Mean Length	550	502	567	504	569	523
Std. Error	6	2	4	10	20	2
Sample Size	7	165	72	5	4	253
Both Sexes	1,974	50,057	24,221	2,153	2,692	81,097
Percent	2.43	61.72	29.87	2.65	3.32	100.00
Mean Length	568	517	586	538	595	542
Std. Error	5	2	3	6	9	1
Sample Size	11	279	135	12	15	452

-Continued-

Table 53. (p 3 of 3)

	Age Group					
	0.3	1.2	1.3	2.2	2.3	Total
All Periods Combined						
Males	718	74,432	29,316	3,565	2,540	110,571
Percent	.29	29.81	11.74	1.43	1.02	44.28
Mean Length	600	535	596	543	600	553
Std. Error	9	1	2	4	8	1
Sample Size	4	571	215	27	15	832
Females	1,549	102,725	30,295	3,114	1,431	139,114
Percent	.62	41.14	12.13	1.25	.57	55.72
Mean Length	554	498	562	503	577	514
Std. Error	6	1	2	5	10	1
Sample Size	9	793	217	23	9	1,051
Both Sexes	2,267	177,157	59,611	6,679	3,971	249,685
Percent	.91	70.95	23.87	2.67	1.59	100.00
Mean Length	568	513	579	524	592	531
Std. Error	5	1	2	3	6	1
Sample Size	13	1,364	432	50	24	1,883

Table 54. Age, sex, and size composition of chinook salmon commercial catch in Togiak District, 1987.

	Age Group						
	0.3	1.2	1.3	1.4	1.5	2.4	Total
All Periods Combined							
Males	32	941	3,082	4,609	227	32	8,923
Percent	.18	5.34	17.49	26.16	1.29	.18	50.65
Mean Length	743	527	739	834	943	740	771
Std. Error		9	6	6	12		4
Sample Size	1	29	95	142	7	1	275
Mean Weight		2.83	6.84	9.67	14.11		8.07
Std. Error		.28	.36	.43	1.46		.26
Sample Size		4	22	43	4		73
Females		292	1,428	6,813	162		8,695
Percent		1.66	8.11	38.67	.92		49.35
Mean Length		566	776	868	887		843
Std. Error		14	11	3	22		3
Sample Size		9	44	210	5		268
Mean Weight		2.94	8.11	10.62	11.34		9.96
Std. Error		.68	.71	.22	.98		.21
Sample Size		2	10	57	4		73
Both Sexes	32	1,233	4,510	11,422	389	32	17,618
Percent	.18	7.00	25.60	64.83	2.21	.18	100.00
Mean Length	743	536	751	854	920	740	807
Std. Error		8	5	3	12		2
Sample Size	1	38	139	352	12	1	543
Mean Weight		2.86	7.24	10.24	12.96		9.01
Std. Error		.27	.33	.22	.94		.17
Sample Size		6	32	100	8		146

Table 55. Age, sex, and size composition of chum salmon commercial catch in Togiak District, 1987.

	Age Group			
	0.2	0.3	0.4	0.5	Total
Sample Period 1 6/08-7/09					
Males		26,731	45,766	2,025	74,522
Percent		17.46	29.89	1.32	48.68
Mean Length		589	627	656	614
Std. Error		3	9	9	6
Sample Size		66	113	5	184
Mean Weight		3.92	4.28		4.15
Std. Error		.17	.16		.12
Sample Size		16	25		41
Females		44,146	33,616	810	78,572
Percent		28.84	21.96	.53	51.32
Mean Length		565	595	570	578
Std. Error		2	3	10	2
Sample Size		109	83	2	194
Mean Weight		3.16	3.51		3.31
Std. Error		.07	.10		.06
Sample Size		29	19		48
Both Sexes		70,877	79,382	2,835	153,094
Percent		46.30	51.85	1.85	100.00
Mean Length		574	613	632	595
Std. Error		2	5	7	3
Sample Size		175	196	7	378
Mean Weight		3.45	3.95		3.71
Std. Error		.08	.10		.06
Sample Size		45	44		89

-Continued-

Table 55. (p 2 of 5)

	Age Group			
	0.2	0.3	0.4	0.5	Total
Sample Period 2 7/10-7/18					
Males		30,902	11,787		42,689
Percent		25.39	9.69		35.08
Mean Length		581	595		585
Std. Error		3	5		2
Sample Size		97	37		134
Mean Weight		3.44	4.00		3.59
Std. Error		.09	.16		.08
Sample Size		23	13		36
Females		64,034	14,654	319	79,007
Percent		52.62	12.04	.26	64.92
Mean Length		558	569	560	560
Std. Error		2	4		2
Sample Size		201	46	1	248
Mean Weight		3.01	2.98		3.00
Std. Error		.06	.15		.06
Sample Size		48	11		59
Both Sexes		94,936	26,441	319	121,696
Percent		78.01	21.73	.26	100.00
Mean Length		565	581	560	569
Std. Error		1	3		1
Sample Size		298	83	1	382
Mean Weight		3.15	3.43		3.21
Std. Error		.05	.11		.05
Sample Size		71	24		95

-Continued-

Table 55. (p 3 of 5)

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 3 7/20-7/25					
Males	194	23,518	8,163		31,875
Percent	.20	24.30	8.43		32.93
Mean Length	520	578	593		581
Std. Error		2	5		2
Sample Size	1	121	42		164
Mean Weight	2.72	3.57	4.16		3.72
Std. Error		.10	.23		.09
Sample Size	1	36	13		50
Females	583	53,254	10,884	194	64,915
Percent	.60	55.02	11.24	.20	67.07
Mean Length	535	555	556	580	555
Std. Error	3	1	3		1
Sample Size	3	274	56	1	334
Mean Weight		2.90	2.89		2.90
Std. Error		.05	.09		.05
Sample Size		62	12		74
Both Sexes	777	76,772	19,047	194	96,790
Percent	.80	79.32	19.68	.20	100.00
Mean Length	531	562	572	580	564
Std. Error	3	1	3		1
Sample Size	4	395	98	1	498
Mean Weight	2.72	3.11	3.43		3.17
Std. Error		.05	.11		.04
Sample Size	1	98	25		124

-Continued-

Table 55. (p 4 of 5)

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 4 7/27-8/13					
Males	175	11,738	2,540	88	14,541
Percent	.35	23.43	5.07	.18	29.02
Mean Length	528	576	579	620	576
Std. Error	8	3	4		2
Sample Size	2	134	29	1	166
Mean Weight		3.61	3.36		3.57
Std. Error		.16	.19		.13
Sample Size		28	8		36
Females	175	30,659	4,730		35,564
Percent	.35	61.19	9.44		70.98
Mean Length	535	555	562		556
Std. Error	5	1	4		1
Sample Size	2	350	54		406
Mean Weight	2.72	2.87	2.97		2.88
Std. Error		.04	.10		.04
Sample Size	1	83	17		101
Both Sexes	350	42,397	7,270	88	50,105
Percent	.70	84.62	14.51	.18	100.00
Mean Length	531	561	568	620	562
Std. Error	5	1	3		1
Sample Size	4	484	83	1	572
Mean Weight	2.72	3.07	3.11		3.08
Std. Error		.05	.10		.05
Sample Size	1	111	25		137

-Continued-

Table 55. (p 5 of 5)

	Age Group				
	0.2	0.3	0.4	0.5	Total
All Periods Combined					
Males	369	92,889	68,256	2,113	163,627
Percent	.09	22.03	16.19	.50	38.80
Mean Length	524	582	616	655	597
Std. Error	8	1	6	9	3
Sample Size	3	418	221	6	648
Mean Weight	2.72	3.63	4.18		3.86
Std. Error		.07	.11		.06
Sample Size	1	103	59		163
Females	758	192,093	63,884	1,323	258,058
Percent	.18	45.55	15.15	.31	61.20
Mean Length	535	558	580	569	563
Std. Error	3	1	2	10	1
Sample Size	5	934	239	4	1,182
Mean Weight	2.72	2.99	3.24		3.05
Std. Error		.03	.07		.03
Sample Size	1	222	59		282
Both Sexes	1,127	284,982	132,140	3,436	421,685
Percent	.27	67.58	31.34	.81	100.00
Mean Length	531	566	598	622	576
Std. Error	2	1	3	7	1
Sample Size	8	1,352	460	10	1,830
Mean Weight	2.72	3.20	3.73		3.37
Std. Error		.03	.07		.03
Sample Size	2	325	118		445

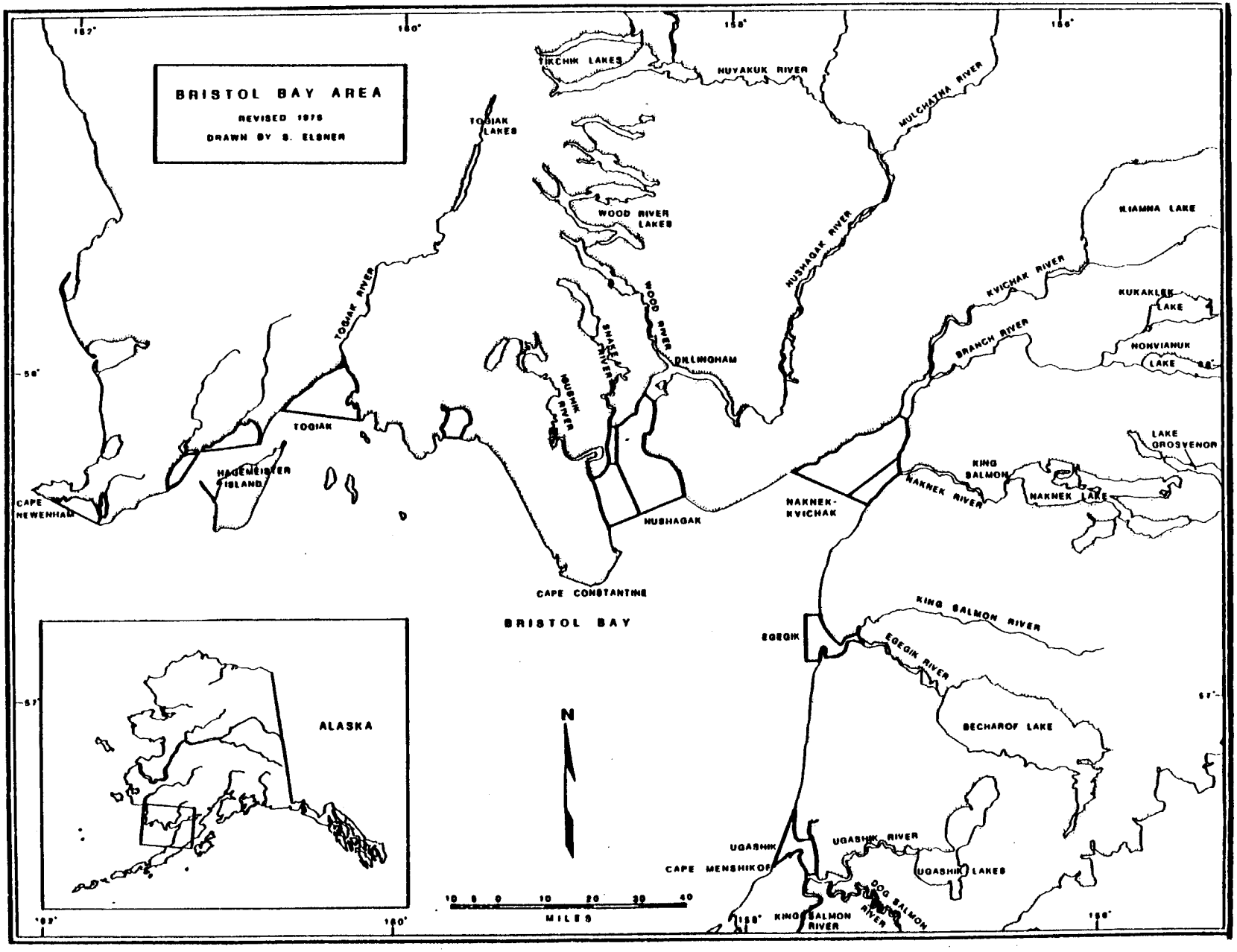

Figure 1. Bristol Bay major river systems and commercial fishing districts.

APPENDICES

Appendix A.1. Catch of sockeye salmon destined for Bristol Bay by the Japanese mothership fishery 1957 to 1987.

	Age Group [a]											
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1957													
Maturing[b]:	38	13172	310646	0	3450277	1352760	2608	1300843	1048	2122	10486	0	6444000
Immature[b]:	0	2494	0	0	653309	0	494	246315	0	402	1986	0	905000
Total :	38	15666	310646	0	4103586	1352760	3102	1547158	1048	2524	12472	0	7349000
1958													
Maturing :	0	519	100753	89	78605	96268	1053	86477	1426	159	651	0	366000
Immature :	0	34	0	6	5160	0	69	5678	0	10	43	0	11000
Total :	0	553	100753	95	83765	96268	1122	92155	1426	169	694	0	377000
1959													
Maturing :	273	1387	209929	0	43327	257941	245	38702	12720	126	350	0	565000
Immature :	0	544	0	0	16994	0	96	15180	0	49	137	0	33000
Total :	273	1931	209929	0	60321	257941	341	53882	12720	175	487	0	598000
1960													
Maturing :	741	4328	3001953	65	266131	211984	88	143814	9403	182	1311	0	3640000
Immature :	0	905	0	14	55669	0	18	30082	0	38	274	0	87000
Total :	741	5233	3001953	79	321800	211984	106	173896	9403	220	1585	0	3727000
1961													
Maturing :	119	6310	136348	0	3502272	1821951	1203	317933	6668	3421	18558	4217	5819000
Immature :	0	508	0	0	281714	0	97	25574	0	275	1493	339	310000
Total :	119	6818	136348	0	3783986	1821951	1300	343507	6668	3696	20051	4556	6129000
1962													
Maturing :	26	158	192145	0	77884	391065	1742	168826	278	356	520	0	833000
Immature :	0	81	0	0	39647	0	887	85939	0	181	265	0	127000
Total :	26	239	192145	0	117531	391065	2629	254765	278	537	785	0	960000
1963													
Maturing :	1492	6017	266168	0	155668	253633	506	234622	9402	31	1461	0	929000
Immature :	0	1088	0	0	28139	0	91	42412	0	6	264	0	72000
Total :	1492	7105	266168	0	183807	253633	597	277034	9402	37	1725	0	1001000
1964													
Maturing :	64	259	132651	3	36451	66717	13	15874	434	0	1534	0	254000
Immature :	0	287	0	3	40402	0	14	17594	0	0	1700	0	60000
Total :	64	546	132651	6	76853	66717	27	33468	434	0	3234	0	314000

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	Age Group												
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1965													
Maturing :	69	4976	142453	0	347150	5474695	106	128311	1495	0	745	0	6100000
Immature :	0	8716	0	0	608051	0	185	224743	0	0	1305	0	843000
Total :	69	13692	142453	0	955201	5474695	291	353054	1495	0	2050	0	6943000
1966													
Maturing :	14	1571	116290	78	299145	263701	280	842894	4792	36	2199	0	1531000
Immature :	0	554	0	28	105439	0	99	297092	0	13	775	0	404000
Total :	14	2125	116290	106	404584	263701	379	1139986	4792	49	2974	0	1935000
1967													
Maturing :	134	2350	95405	140	107675	480638	625	171975	2503	126	4429	0	866000
Immature :	0	458	0	27	20986	0	122	33519	0	25	863	0	56000
Total :	134	2808	95405	167	128661	480638	747	205494	2503	151	5292	0	922000
1968													
Maturing :	336	2076	337722	125	184247	212012	884	119596	5100	64	1838	0	864000
Immature :	0	141	0	9	12529	0	60	8132	0	4	125	0	21000
Total :	336	2217	337722	134	196776	212012	944	127728	5100	68	1963	0	885000
1969													
Maturing :	325	758	463404	0	50218	229371	33	42566	3409	0	916	0	791000
Immature :	0	9944	0	0	659007	0	437	558591	0	0	12021	0	1240000
Total :	325	10702	463404	0	709225	229371	470	601157	3409	0	12937	0	2031000
1970													
Maturing :	184	5242	298284	0	233396	2820623	0	84946	7230	0	1095	0	3451000
Immature :	0	8348	0	0	371645	0	0	135263	0	0	1744	0	517000
Total :	184	13590	298284	0	605041	2820623	0	220209	7230	0	2839	0	3968000
1971													
Maturing :	206	2140	84009	0	361452	255790	557	136849	495	0	502	0	842000
Immature :	0	5152	0	0	869934	0	1340	329366	0	0	1208	0	1207000
Total :	206	7292	84009	0	1231386	255790	1897	466215	495	0	1710	0	2049000
1972													
Maturing :	204	784	133988	6	162096	223043	1185	185582	821	148	2143	0	710000
Immature :	0	1319	0	9	272660	0	1994	312165	0	249	3604	0	592000
Total :	204	2103	133988	15	434756	223043	3179	497747	821	397	5747	0	1302000
1973													
Maturing :	130	22136	56621	1515	261334	55583	1425	223411	329	418	2098	0	625000
Immature :	0	9246	0	633	109158	0	595	93317	0	175	876	0	214000
Total :	130	31382	56621	2148	370492	55583	2020	316728	329	593	2974	0	839000

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Appendix A.1. (p 3 of 4)

	Age Group												
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1974													
Maturing :	93	235	46344	116	32015	157246	427	14334	107	38	45	0	251000
Immature :	0	1292	0	635	175641	0	2341	78636	0	210	245	0	259000
Total :	93	1527	46344	751	207656	157246	2768	92970	107	248	290	0	510000
1975													
Maturing :	74	909	41021	0	59316	461402	422	73594	7865	119	278	0	645000
Immature :	0	4779	0	0	311918	0	2219	386999	0	624	1461	0	708000
Total :	74	5688	41021	0	371234	461402	2641	460593	7865	743	1739	0	1353000
1976													
Maturing :	122	3518	105567	0	173665	356244	232	99609	32306	110	7627	0	779000
Immature :	0	2742	0	0	135390	0	181	77655	0	86	5946	0	222000
Total :	122	6260	105567	0	309055	356244	413	177264	32306	196	13573	0	1001000
1977													
Maturing :	132	3354	90183	358	100162	160733	177	179098	4096	23	1684	0	540000
Immature :	0	2684	0	287	80170	0	142	143351	0	18	1348	0	228000
Total :	132	6038	90183	645	180332	160733	319	322449	4096	41	3032	0	768000
1978													
Maturing :	127	95	67062	29	30947	9605	863	14438	363	81	390	0	124000
Immature :	0	667	0	202	216695	0	6040	101098	0	564	2734	0	328000
Total :	127	762	67062	231	247642	9605	6903	115536	363	645	3124	0	452000
1979													
Maturing :	6	29	18998	0	8905	36378	16	3513	118	0	37	0	68000
Immature :	0	539	0	3	168115	0	301	66329	0	0	705	8	236000
Total :	6	568	18998	3	177020	36378	317	69842	118	0	742	8	304000
1980													
Maturing :	25	144	35013	0	39013	99223	59	6278	234	0	11	0	180000
Immature :	0	1296	0	0	351502	0	534	56568	0	0	100	0	410000
Total :	25	1440	35013	0	390515	99223	593	62846	234	0	111	0	590000
1981													
Maturing :	0	206	22710	0	54991	40911	41	18012	78	3	48	0	137000
Immature :	0	1917	0	4	510882	0	383	167341	0	23	450	0	681000
Total :	0	2123	22710	4	565873	40911	424	185353	78	26	498	0	818000
1982													
Maturing :	8	36	11947	2	36909	3446	399	10215	0	35	3	0	63000
Immature :	0	286	0	13	294660	0	3188	81552	0	279	22	0	380000
Total :	8	322	11947	15	331569	3446	3587	91767	0	314	25	0	443000

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Appendix A.1. (p 4 of 4)

Year	Age Group 0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1983													
Maturing :	6	22	58443	0	13913	20150	592	2689	122	53	10	0	96000
Immature :	0	290	0	6	183586	0	7810	35483	0	699	126	0	228000
Total :	6	312	58443	6	197499	20150	8402	38172	122	752	136	0	324000
1984													
Maturing :	0	39	7762	4	9996	28004	31	5288	48	1	27	0	51200
Immature :	0	607	0	57	155917	0	489	82485	0	22	423	0	240000
Total :	0	646	7762	61	165913	28004	520	87773	48	23	450	0	291200
1985													
Maturing :	0	0	0	0	0	0	0	0	0	0	0	0	0
Immature :	0	409	0	0	158605	0	479	100200	0	67	140	0	259900
Total :	0	409	0	0	158605	0	479	100200	0	67	140	0	259900
1986													
Maturing :	0	33	4290	0	14898	10181	66	4506	14	9	3	0	34000
Immature :	0	444	0	0	201545	0	887	60959	0	121	44	0	264000
Total :	0	477	4290	0	216443	10181	953	65465	14	130	47	0	298000
1987													
Maturing :	0	47	34730	4	17869	8129	114	9077	22	8	0	0	70000
Immature :	0	163	0	13	62598	0	400	31798	0	28	0	0	95000
Total :	0	210	34730	17	80467	8129	514	40875	22	36	0	0	165000

[a] Scales are not sampled from sockeye salmon harvested by the Japanese mothership fishery, therefore the age composition of the total Bristol Bay inshore return is applied to the mothership catch numbers to estimate catch by age.

[b] Indexes of fish maturity are made on sockeye salmon caught by the mothership fishery by examining gonads.

Appendix A.2. Sockeye salmon catch by age group in the South Peninsula fishery in June, 1957 to 1987.

Year	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
56	0	0	307	171421	0	207	46548	82096	0	28	28577	952	0	213	0	330349
57	1	1	336	7917	0	0	87928	34474	0	66	33151	27	54	267	0	164222
58	0	36	190	36837	1037	32	28739	35196	114	385	31617	521	58	238	0	135000
59	38	197	192	29043	100	0	5994	35686	0	34	5354	1760	17	48	0	78463
60	32	11	185	128250	443	3	11370	9057	35	4	6144	402	8	56	0	156000
61	5	34	275	5950	28	0	152839	79509	0	52	13874	291	149	810	184	254000
62	10	18	62	75129	267	0	30453	152907	11	681	66011	109	139	203	0	326000
63	238	173	961	42526	405	0	24870	40522	0	81	37484	1502	5	233	0	149000
64	61	253	244	125279	3850	3	34426	63010	11	12	14992	410	0	1449	0	244000
65	9	304	632	18089	88	0	44083	695203	0	13	16294	190	0	95	0	775000
66	5	0	597	44183	310	30	113657	100191	0	106	320250	1821	14	836	0	582000
67	39	393	690	28009	367	41	31611	141107	0	183	50488	735	37	1300	0	255000
68	219	2522	1351	219875	9894	82	119955	138031	75	575	77863	3320	41	1197	0	575000
69	1673	0	1120	517417	0	0	54813	245493	0	0	33770	1693	0	1021	0	857000
70	0	0	1071	142544	0	0	146131	1345170	0	0	43270	3209	0	1605	0	1683000
71	0	0	0	156994	0	0	221420	160930	0	0	61903	0	0	8753	0	610000
72	149	13	573	97941	0	4	118487	163039	0	866	135654	600	108	1566	0	519000
73	0	20	6452	12560	469	0	162010	8490	0	0	71680	0	0	319	0	262000
74	22	15	56	11015	327	28	7609	37375	0	101	3407	25	9	11	0	60000
75	27	49	336	15166	431	0	21930	170586	55	156	27209	2908	44	103	0	239000
76	48	20	1385	41578	148	0	68398	140307	23	91	39231	12724	43	3004	0	307000
77	58	425	1481	39827	100	158	44234	70983	0	78	79093	1809	10	744	0	239000
78	488	1708	366	257930	8370	111	119027	36942	0	3318	55531	1397	310	1502	0	487000
79	0	0	2289	315779	4043	0	70885	440145	0	0	28859	0	0	0	0	862000
80	4395	9350	0	586323	0	0	223607	2420379	0	0	56014	2932	0	0	0	3303000
81	15689	0	4303	338455	0	0	564765	674826	0	0	226962	0	0	0	0	1825000
82	0	0	3628	437003	0	0	1114939	177293	0	0	388137	0	0	0	0	2121000
83	0	0	4660	1084307	0	0	181247	583691	0	2052	102208	783	2052	0	0	1961000
84	210	168	12171	247255	0	0	216104	793385	0	1163	116074	980	490	0	0	1388000
85	130	0	15153	203265	4350	0	549464	669836	0	8469	252864	130	0	5339	0	1709000
86	822	0	11430	20242	58	0	138065	135689	0	642	158180	368	0	504	0	466000
87	790	0	30234	279448	195	881	260507	104860	0	4543	109610	1498	1687	606	0	794859

Appendix A.3. Daily sockeye salmon escapement counts, Nuyakuk River, 1987.

Date	Daily Count[a]	Accumulative Count	Daily Percent of Total	Accumulative Percent
July 9	11,028	11,028	6.77	6.77
10	16,938	27,966	10.39	17.16
11	11,244	39,210	6.90	24.06
12	7,074	46,284	4.34	28.40
13	14,826	61,110	9.10	37.50
14	5,250	66,360	3.22	40.72
15	1,578	67,938	.97	41.69
16	1,620	69,558	.99	42.68
17	204	69,762	.12	42.80
Total	163,000	163,000	100.00	100.00

[a] Daily escapement counts for Nuyakuk River are incomplete. High water made conditions unsuitable for counting. Counting from the tower ended on June 18, 1987. Based on aerial surveys of major spawning grounds (Tikchik River, Allen River) the total escapement into Nuyakuk River equaled 163,000 sockeye salmon.

Appendix A.4. Age, sex, and size composition of combined chinook salmon subsistence catch, Lewis Point and Kanakanak Beach, 1987.

	Age Group						
	1.1	1.2	1.3	2.2	1.4	1.5	Total
All Periods Combined							
Males	23	606	2,911	23	3,517	140	7,220
Percent	.19	4.92	23.63	.19	28.54	1.14	58.60
Mean Length	342	545	720	483	823	943	758
Std. Error		12	5		6	31	4
Sample Size	1	26	125	1	151	6	310
Females		70	792		3,983	256	5,101
Percent		.57	6.43		32.33	2.08	41.40
Mean Length		580	762		846	904	832
Std. Error		49	10		5	21	3
Sample Size		3	34		171	11	219
Both Sexes	23	676	3,703	23	7,500	396	12,321
Percent	.19	5.49	30.05	.19	60.87	3.21	100.00
Mean Length	342	549	729	483	835	918	789
Std. Error		12	5		4	17	3
Sample Size	1	29	159	1	322	17	529

Appendix A.5. Commercial salmon catch by period and species, Kulukak Section, Togiak District, 1987.

Period [a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/16	275	71	56			402
6/17	267	61	38			366
6/18	216	47	104			367
6/22	2,244	204	528			2,976
6/23	1,073	44	954			2,071
6/24	980	119	890			1,989
6/25	1,311	53	938			2,302
7/06	4,794	103	3,817	1		8,715
7/07	8,367	89	6,198	1		14,655
7/08	7,338	83	10,125	1		17,547
7/09	1,006	6	229			1,241
7/13	2,298	9	4,085			6,392
7/14	4,069	15	6,777			10,861
7/15	4,051	6	4,618			8,675
7/16	754	3	620			1,377
7/20	536	1	710			1,247
7/21	339	2	721			1,062
7/23	35		198			233
7/27	904	2	857			1,763
7/28	666	2	341			1,009
7/29	1,697	3	929	1	1	2,631
7/30	841	2	517			1,360
7/31	975		334			1,309
8/01	25		1			26
Total	45,061	925	44,585	4	1	90,576
Percent of Section Catch	49.8	1.0	49.2	0.0	0.0	100.0

[a] Kulukak Section open four days per week. See Table 1 for emergency order adjustments in the weekly fishing schedule.

Appendix A.6. Commercial salmon catch by period and species, Matogak Section, Togiak District, 1987.

Period[a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/15		12				12
6/16	18	12	22			52
6/17		6	58			64
6/19	30	30	259			319
6/20	17	8	285			310
6/25	5	4	124			133
6/26	67	3	381			451
6/27	132	17	82			231
7/02	2,062	111	5,549			7,722
7/03	4,141	136	11,145			15,422
7/04	1,708	41	2,852			4,601
7/10	991	11	1,971			2,973
7/11	779	9	5,081			5,869
7/16	87		59			146
7/17	1,686	13	3,487			5,186
7/18	349	5	665			1,019
7/22	1,559	7	2,838			4,404
7/24	66		56			122
7/27	207		207			414
7/28	385	2	145			532
Total	14,289	427	35,266	0	0	49,982
Percent of Section Catch	28.6	0.8	70.6	0.0	0.0	100.0

[a] Matogak Section open five days per week. See Table 1 for emergency order adjustments in the weekly fishing schedule.

Appendix A.7. Commercial salmon catch by period and species, Osviak Section, Togiak District, 1987.

Period[a]	Sockeye	Chinook	Chum	Pink	Coho	Total
6/16	1	51	17			69
6/17	6	110	116			232
6/18	53	212	583			848
6/19	110	185	826			1,121
6/20	6	8	37			51
6/22	2	10	5			17
6/23	159	101	535			795
6/24	129	108	544			781
6/25	334	191	1,176			1,701
6/26	81	149	273			503
6/27	33	18	207			258
7/02	806	16	2,536			3,358
7/03	549	25	2,407			2,981
7/04	1,609	19	4,167			5,795
7/09	2,204	44	6,223			8,471
7/10	728	9	3,739			4,476
7/11	1,293	8	4,327			5,628
7/17	432	8	843			1,283
7/23	136	0	275			411
7/28	167	1	66			234
8/08	89	0	140			229
Total	8,927	1,273	29,042	0	0	39,242
Percent of Section Catch	22.8	3.2	74.0	0.0	0.0	100.0

[a] Osviak Section open five days per week. See Table 1 for emergency order adjustments in the weekly fishing schedule.

Appendix A.8. Commercial salmon catch by period and species, Cape Pierce Section, Togiak District, 1987.

Period[a]	Sockeye	Chinook	Chum	Pink	Coho	Total
8/10	13		6		216	235
8/13	17		5		124	146
Total	30	0	11	0	340	381
Percent of Section Catch	7.9	0.0	2.9	0.0	89.2	100.0

[a] Cape Pierce Section open five days per week. See Table 1 for emergency order adjustments in the weekly fishing schedule.

Appendix A.9. Kvichak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)																
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	0	274	0	0	0	0	274
1951	0	0	0	0	0	0	0	245	3717	0	0	983	0	1	0	0	4946
1952	0	0	0	0	10955	0	0	6681	2956	0	0	654	1	0	1	0	21249
1953	0	0	0	0	91	0	0	62	365	0	0	60	0	0	0	16	593
1954	0	0	0	0	81	17	0	29	643	0	0	0	0	0	29	0	799
1955	0	0	0	0	251	14	0	101	589	0	0	531	20	0	0	0	1504
1956	9443	0	14	0	24280	0	0	6960	6465	0	0	1308	0	0	0	0	39027
1957	2843	8	0	0	243	0	0	244	3333	0	2	259	0	0	2	0	4090
1958	535	0	0	0	76	0	0	48	135	0	0	26	0	0	3	0	289
1959	680	0	0	0	212	1	0	117	206	0	0	11	0	0	0	0	546
1960	14630	0	0	1	1314	134	0	563	46743	0	0	6483	10	0	6	0	55255
1961	3706	1	0	0	334	0	0	190	2293	0	0	679	5	0	0	0	3502
1962	2581	0	0	0	104	2	0	152	4673	0	0	408	12	0	4	0	5356
1963	339	0	0	1	49	3	0	50	639	0	0	366	3	0	9	0	1120
1964	957	0	8	0	2232	105	0	407	2341	0	0	647	8	0	3	0	5751
1965	24326	0	25	0	9853	484	0	471	32950	0	0	1238	2	0	1	0	45024
1966	3775	4	11	6	497	11	0	1086	4261	0	0	385	0	1	0	0	6261
1967	3216	0	0	5	349	2	0	272	812	0	0	86	0	0	0	0	1527
1968	2557	0	0	0	293	0	0	34	77	0	5	132	0	0	2	0	543
1969	8394	0	0	1	129	7	0	321	4221	0	0	594	19	0	11	0	5303
1970	13935	0	1	0	43	40	0	13	14462	6	0	849	412	0	7	0	15833
1971	2387	0	0	0	244	18	0	93	2170	0	0	303	2	0	0	0	2830
1972	1010	0	0	0	255	1	0	159	1206	0	22	297	0	0	0	0	1941
1973	227	0	0	2	576	2	2	1028	274	0	4	543	28	0	0	0	2457
1974	4434	0	9	1	6328	309	0	2009	16726	0	8	763	23	0	5	0	26180
1975	13140	0	5	0	5682	302	0	1232	30263	0	0	599	2	0	0	0	38086
1976	1965	0	5	11	5298	43	0	826	4115	0	4	273	0	0	0	0	10575
1977	1341	11	43	6	1933	2	0	933	207	0	0	99	0	0	0	0	3235
1978	4149	0	0	0	1835	16	0	1154	1320	0	0	834	11	0	6	0	5176
1979	11218	1	57	4	18329	73	0	2246	17636	0	0	3486	0	0	0	0	41832
1980	22505	0	2	6	2924	14	0	1609	8101	0	2	413	0	0	0	0[a]	13071[a]
1981	1754	0	0	16	804	0	0	230	931	0	0	166	0	0[a]	0[a]	0[a]	2147[a]
1982	1135	23	0	2	445	1	0	540	522	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	1533[a]
1983	3570	0	1	14	8573	3	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	8591[a]

[a] Incomplete returns from brood year escapement.

Appendix A.10. Branch River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	0	290	0	0	0	0	290
1951	0	0	0	0	0	0	0	325	378	0	0	43	0	0	0	0	747
1952	0	0	0	0	422	0	0	295	131	0	0	115	0	0	1	0	963
1953	0	0	0	0	5	0	0	11	64	0	0	0	0	0	0	0	80
1954	0	0	0	0	14	3	0	109	392	0	0	141	0	0	1	0	661
1955	0	0	0	0	788	0	0	237	26	0	0	44	0	0	0	0	1095
1956	784	5	0	0	1885	0	0	458	0	0	0	38	3	0	0	0	2390
1957	127	0	0	0	5	0	0	23	43	0	0	13	0	0	1	0	85
1958	95	0	0	0	43	0	0	26	27	0	0	52	0	0	0	0	147
1959	825	0	0	0	301	0	0	265	122	0	0	76	1	0	2	0	767
1960	1241	0	0	0	105	0	0	185	135	0	0	31	0	0	0	0	456
1961	90	0	10	1	89	1	0	185	7	0	0	0	0	0	0	0	292
1962	91	0	19	0	129	0	0	92	3	0	0	19	1	0	0	0	262
1963	203	0	0	0	199	1	0	140	34	0	0	1	0	0	0	0	376
1964	249	0	5	0	100	2	0	98	113	0	0	17	0	0	0	0	336
1965	175	0	6	0	104	1	0	161	10	0	0	17	0	0	0	0	299
1966	174	0	13	0	282	0	0	262	12	0	0	11	0	0	0	0	581
1967	203	0	9	8	291	1	0	51	46	0	0	7	0	0	0	0	414
1968	194	3	5	0	127	0	0	40	2	0	0	3	0	0	0	0	180
1969	182	0	0	0	4	1	0	54	105	0	0	25	0	0	0	0	190
1970	177	0	0	0	73	0	0	71	6	0	0	2	0	0	0	0	153
1971	187	0	2	0	26	0	0	28	31	0	0	37	0	0	2	0	126
1972	151	0	1	0	91	0	0	17	7	0	0	14	0	0	0	0	130
1973	35	0	0	0	97	1	0	130	18	0	0	2	0	0	0	0	248
1974	215	0	4	0	292	5	0	18	128	0	0	8	0	0	0	0	456
1975	100	0	15	0	415	0	0	340	3	0	1	1	0	0	0	0	774
1976	82	0	26	0	211	0	0	168	20	0	0	55	0	0	0	0	481
1977	100	0	27	0	141	1	0	699	0	0	4	9	0	0	0	0	880
1978	229	0	1	0	102	0	0	68	39	0	0	142	0	0	0	0	353
1979	294	0	3	3	458	2	0	285	32	0	0	3	0	0	0	0	787
1980	298	0	0	0	102	0	0	207	13	0	2	9	0	1	0	0[a]	334[a]
1981	82	0	0	0	56	0	0	171	53	0	2	11	0	0[a]	0[a]	0[a]	292[a]
1982	239	0	0	0	172	0	0	141	4	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	318[a]
1983	96	0	0	0	147	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	148[a]
1984	215	0	1	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1[a]

[a] Incomplete returns from brood year escapement.

Appendix A.11. Naknek River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	0	1211	0	2	5	0	1218
1951	0	0	0	0	0	0	0	1435	757	0	0	1250	0	1	0	0	3443
1952	0	0	0	0	87	0	0	1199	108	0	7	176	1	0	2	0	1579
1953	0	0	0	0	24	0	0	135	177	3	0	206	42	0	1	1	589
1954	0	0	0	0	85	19	0	302	2129	0	0	587	0	13	3	0	3138
1955	0	0	0	0	720	1	0	821	214	0	0	88	2	4	2	0	1852
1956	1773	0	1	0	474	0	0	1700	3	0	17	304	0	0	0	0	2499
1957	635	0	0	0	53	2	0	329	505	0	1	673	5	0	3	0	1569
1958	278	0	0	0	112	4	0	211	538	0	0	168	3	0	2	0	1039
1959	2232	0	0	0	349	7	0	351	742	0	0	704	0	0	0	0	2153
1960	828	0	1	1	1408	9	0	626	696	0	0	1278	1	1	2	0	4023
1961	351	0	0	0	239	3	0	745	315	0	3	639	0	0	8	0	1953
1962	723	0	0	0	76	4	0	230	351	0	2	397	13	0	1	0	1074
1963	905	0	0	0	136	8	0	390	833	0	0	627	7	0	1	0	2002
1964	1350	0	1	0	447	24	0	264	1135	0	0	177	11	0	1	0	2061
1965	718	0	5	0	540	44	0	361	732	0	0	437	1	0	1	0	2121
1966	1016	1	4	0	728	2	0	2305	167	0	1	629	0	1	0	0	3838
1967	756	0	0	2	326	6	0	625	401	0	0	356	0	1	0	0	1717
1968	1023	0	3	0	152	0	0	234	83	0	0	269	2	0	2	0	745
1969	1331	0	0	0	47	3	0	308	976	0	0	1209	5	0	3	0	2550
1970	733	0	1	0	154	19	0	318	1845	0	0	370	12	0	0	0	2719
1971	936	0	1	0	398	24	0	559	1428	0	0	1844	3	9	8	0	4274
1972	587	0	3	0	245	3	0	241	161	0	3	598	9	0	1	0	1264
1973	357	0	0	0	494	0	0	618	524	0	0	598	0	0	0	0	2235
1974	1241	0	2	0	232	3	0	228	1026	0	1	783	5	0	5	0	2285
1975	2027	0	1	0	425	11	0	1746	1393	0	0	1640	1	8	0	0	5226
1976	1321	0	4	0	1084	3	0	4049	1575	0	21	1492	0	28	1	0	8257
1977	1086	2	10	7	635	0	0	2268	95	0	64	400	0	1	5	0	3487
1978	813	0	1	0	331	4	0	1691	1122	0	11	513	1	0	0	0	3675
1979	925	0	4	1	2438	4	0	943	788	0	10	405	3	0	3	0	4600
1980	2645	0	1	1	711	13	0	1472	1195	0	9	828	0	2	0	0[a]	4232[a]
1981	1796	0	4	0	795	9	0	2566	472	0	13	933	0	0[a]	0[a]	0[a]	4793[a]
1982	1156	0	3	4	185	0	0	1164	191	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	1547[a]
1983	888	0	0	2	163	7	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	172[a]
1984	1242	0	1	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1[a]

[a] Incomplete returns from brood year escapement.

Appendix A.12. Egegik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15
1950	0	0	0	0	0	0	0	0	0	0	0	304	77	4	23	0	407
1951	0	0	0	0	0	0	0	360	1120	0	1	1301	2	0	6	0	2791
1952	0	0	0	0	685	0	0	446	241	0	1	295	19	2	5	0	1695
1953	0	0	0	0	26	0	0	39	435	2	0	337	254	0	12	0	1104
1954	0	0	0	0	11	4	0	13	1190	0	0	641	87	0	45	0	1991
1955	0	0	1	0	20	0	0	163	672	0	0	396	6	1	6	0	1265
1956	1104	0	6	0	2025	0	0	3186	924	0	2	685	1	0	12	0	6841
1957	391	0	0	0	37	0	0	43	1096	0	0	926	70	0	62	0	2235
1958	246	0	0	0	42	2	0	73	817	0	0	308	16	0	3	0	1262
1959	1072	0	0	0	73	2	0	164	1037	0	0	467	14	0	24	0	1782
1960	1799	8	0	0	447	21	0	328	4447	0	1	2559	49	0	50	0	7912
1961	702	0	0	3	82	0	0	230	446	0	1	790	28	0	10	0	1590
1962	1027	0	0	0	22	0	0	69	950	0	0	375	28	0	30	0	1475
1963	998	0	0	1	16	2	0	112	538	1	1	506	74	0	7	0	1258
1964	850	0	1	0	126	6	0	69	1454	1	0	242	73	0	12	0	1983
1965	1445	0	0	0	104	35	0	72	2016	0	4	844	6	2	20	0	3102
1966	804	0	0	1	249	0	0	752	600	0	2	889	7	0	10	0	2511
1967	637	0	0	2	60	2	0	257	665	0	0	622	1	1	2	0	1613
1968	339	0	0	0	41	0	0	56	87	0	0	258	3	5	9	0	458
1969	1016	0	0	0	12	1	0	111	1096	0	0	1139	279	2	113	0	2754
1970	920	0	0	0	59	0	0	89	796	0	1	175	95	0	25	0	1240
1971	634	0	0	0	45	2	0	109	1477	0	0	970	74	1	55	0	2732
1972	546	0	0	1	57	2	0	61	1508	0	0	1263	48	0	18	0	2958
1973	329	0	0	0	76	0	0	135	578	0	0	851	35	0	4	0	1679
1974	1276	0	0	0	131	18	0	99	2225	0	0	496	54	0	3	0	3025
1975	1174	0	0	0	148	9	0	241	2449	2	0	797	14	2	1	0	3663
1976	509	1	1	2	612	59	0	789	3003	0	4	846	0	0	0	0	5317
1977	693	0	2	0	823	1	0	1965	684	0	14	654	52	0	13	0	4207
1978	896	0	0	2	398	6	0	509	6078	0	0	2223	26	4	8	0	9254
1979	1032	0	3	0	712	9	3	529	3092	0	5	1637	0	0	0	0	5990
1980	1061	0	1	18	812	27	0	2208	4537	0	6	939	7	0	0	0[a]	8556[a]
1981	695	0	0	9	540	63	0	981	3368	0	12	1445	9	0[a]	0[a]	0[a]	6427[a]
1982	1035	2	2	6	1013	12	0	1877	1804	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	4716[a]
1983	792	0	3	0	1756	7	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1766[a]
1984	1165	0	1	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1[a]

[a] Incomplete returns from brood year escapement.

Appendix A.13. Ugashik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1950	0	0	0	0	0	0	0	0	0	0	1	50	0	0	3	0	54
1951	0	0	0	0	0	0	1	52	191	0	2	118	1	0	0	0	364
1952	0	0	0	1	559	0	0	391	209	0	0	78	2	0	0	0	1240
1953	0	0	0	0	216	0	0	249	420	0	0	216	7	0	0	0	1108
1954	0	0	0	0	24	3	0	28	395	0	0	61	0	0	0	0	511
1955	0	0	0	1	17	1	0	33	118	0	0	7	0	0	0	0	177
1956	425	1	12	0	3166	0	0	836	80	0	2	35	0	0	0	0	4132
1957	215	0	0	3	35	0	0	105	354	0	2	100	4	0	2	0	604
1958	280	0	0	0	63	0	0	105	444	0	0	66	0	0	0	0	679
1959	219	0	0	0	18	0	0	38	310	0	0	132	0	0	1	0	497
1960	2304	0	0	0	674	11	0	296	1563	0	0	487	0	0	0	0	3032
1961	349	0	0	3	240	2	0	500	247	0	1	119	0	0	0	0	1113
1962	255	0	0	2	77	2	0	130	185	0	0	27	0	0	0	0	424
1963	388	0	0	0	13	0	0	21	91	0	0	23	0	0	0	0	148
1964	473	0	0	0	31	9	0	16	245	0	0	18	0	0	2	0	324
1965	997	0	0	0	86	2	0	38	249	0	1	162	1	0	0	0	538
1966	704	1	0	2	724	0	0	1478	90	0	0	21	0	0	0	0	2316
1967	239	0	0	0	56	0	0	50	44	0	0	34	0	0	0	0	184
1968	71	0	0	0	14	0	0	7	15	0	0	3	0	0	0	0	40
1969	160	0	0	0	4	0	0	5	53	0	0	26	2	0	2	0	92
1970	735	0	0	0	4	1	0	2	256	0	1	27	2	0	1	0	294
1971	530	0	0	0	178	0	0	229	282	0	0	130	0	0	1	0	821
1972	79	0	0	0	34	0	0	58	119	0	0	36	2	0	3	0	252
1973	39	0	0	1	16	0	0	7	15	0	0	46	4	0	0	0	89
1974	62	0	0	0	11	9	0	15	600	0	0	82	2	0	0	0	719
1975	429	0	3	0	1479	4	0	573	1715	0	0	325	2	1	0	0	4103
1976	342	0	0	2	2020	58	0	1526	1248	0	7	431	0	0	3	0	5296
1977	201	0	2	18	585	0	0	1592	262	0	10	186	6	1	4	0	2666
1978	70	0	0	6	244	7	0	412	864	0	6	522	1	0	0	0	2060
1979	1701	0	19	0	3075	8	0	853	1438	0	16	553	0	5	0	0	5967
1980	3321	0	1	18	1187	38	0	2266	3316	0	10	838	3	2	0	0[a]	7678[a]
1981	1327	1	2	14	1574	4	0	2592	2244	0	4	925	1	0[a]	0[a]	0[a]	7360[a]
1982	1158	0	1	21	417	1	2	705	600	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	1747[a]
1983	1001	0	0	25	642	6	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	672[a]
1984	1241	1	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1[a]

[a] Incomplete returns from brood year escapement.

Appendix A.14. Wood River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	1	64	0	0	0	0	64
1951	0	0	0	0	0	0	0	505	319	0	3	54	0	0	1	0	881
1952	0	0	0	0	759	0	0	558	29	0	2	34	0	0	0	0	1383
1953	0	0	0	0	301	0	0	331	139	0	2	34	0	0	1	0	809
1954	0	0	0	0	1237	0	0	140	1085	0	1	67	0	0	0	0	2529
1955	0	0	0	0	2407	0	0	834	401	0	5	143	0	0	0	0	3790
1956	773	0	0	48	774	0	0	626	24	0	0	0	0	0	0	0	1472
1957	289	0	0	40	136	0	0	257	35	0	0	0	0	0	0	0	469
1958	960	0	1	0	2145	1	0	388	75	0	0	32	0	0	0	0	2642
1959	2209	0	0	1	978	10	0	398	359	0	1	55	0	0	2	0	1803
1960	1016	0	6	0	1473	0	0	1040	106	0	2	105	1	0	0	0	2733
1961	461	0	0	10	255	0	0	1184	24	0	2	20	0	1	1	0	1497
1962	874	1	2	0	992	1	2	341	116	0	6	43	0	0	0	0	1504
1963	721	0	0	0	536	1	0	769	76	0	0	46	0	0	0	0	1427
1964	1076	0	1	6	452	0	0	347	338	0	0	74	0	0	2	0	1219
1965	675	2	1	8	472	1	0	1000	90	0	0	213	0	0	1	0	1787
1966	1209	0	7	29	975	0	0	988	46	0	7	69	0	0	1	0	2122
1967	516	0	3	21	642	0	0	269	75	0	2	80	0	0	0	0	1091
1968	649	0	1	0	514	0	0	565	5	0	4	19	0	0	0	0	1108
1969	604	0	0	4	57	0	0	445	201	0	10	116	0	0	0	0	834
1970	1162	0	2	0	1539	0	0	1004	231	0	0	26	0	0	0	0	2801
1971	851	3	0	19	456	0	0	576	198	0	1	49	0	0	0	0	1302
1972	431	2	1	22	779	0	0	631	32	0	19	27	0	0	0	0	1514
1973	330	1	1	0	213	0	0	1149	74	0	3	44	0	0	0	0	1485
1974	1709	0	3	6	2956	4	0	1698	421	0	5	71	0	0	0	0	5164
1975	1270	13	47	13	1591	2	0	1977	406	0	2	734	0	0	0	0	4785
1976	817	0	3	0	2278	3	0	2590	572	0	24	293	0	0	0	0	5763
1977	562	0	20	0	1028	0	0	2351	90	0	0	27	0	0	0	0	3517
1978	2267	0	0	0	1361	3	0	1180	618	0	5	122	0	0	0	0	3288
1979	1706	0	10	0	2773	0	0	1712	28	0	2	19	0	0	0	0	4544
1980	2969	2	1	0	496	0	0	1087	86	0	1	102	0	0	0	0[a]	1775[a]
1981	1233	0	0	0	633	0	0	1183	85	0	0	95	0	0[a]	0[a]	0[a]	1995[a]
1982	976	0	3	0	502	0	0	949	134	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	1589[a]
1983	1361	0	1	1	1956	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	1958[a]

[a] Incomplete returns from brood year escapement.

Appendix A.15. Igushik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	1	86	0	0	0	0	87
1951	0	0	0	0	0	0	0	681	68	0	1	29	0	0	2	0	782
1952	0	0	0	0	162	0	0	303	9	0	5	73	0	0	0	0	553
1953	0	0	0	0	98	0	0	1	20	0	3	65	0	0	1	0	187
1954	0	0	0	0	175	0	0	269	204	0	0	113	0	1	0	0	763
1955	0	0	0	0	454	0	0	783	113	0	0	94	0	0	0	0	1444
1956	400	0	0	0	169	0	0	522	12	0	3	36	0	0	0	0	742
1957	130	0	0	0	2	0	0	35	19	0	0	20	0	0	0	0	76
1958	107	0	0	1	14	0	0	71	20	0	0	28	0	0	0	0	133
1959	644	0	0	0	101	0	0	155	93	0	0	22	0	0	0	0	372
1960	495	0	0	1	61	0	0	310	44	0	0	57	0	0	0	0	474
1961	294	0	0	1	33	0	1	365	20	0	0	17	0	0	0	0	438
1962	16	0	0	8	20	0	0	281	9	0	0	9	0	0	0	0	327
1963	92	0	0	3	254	0	0	190	36	0	0	25	0	0	0	0	508
1964	129	0	0	1	162	0	0	586	133	0	0	49	0	0	0	0	931
1965	181	0	0	0	371	0	0	436	203	0	0	79	0	0	0	0	1089
1966	206	0	0	0	66	0	0	384	6	0	0	15	0	0	0	0	471
1967	282	0	0	3	57	0	0	91	13	0	0	12	0	0	0	0	175
1968	195	0	0	0	43	0	0	120	0	0	2	10	0	0	0	0	176
1969	512	0	0	0	1	0	0	131	301	0	2	103	0	0	0	0	536
1970	371	0	0	1	26	0	0	171	41	0	0	71	0	0	0	0	309
1971	211	0	0	1	48	0	0	164	60	0	0	30	0	0	0	0	303
1972	60	0	0	4	89	0	0	109	6	0	8	13	0	0	0	0	229
1973	60	0	0	0	19	0	0	651	25	0	2	29	0	0	0	0	726
1974	359	0	0	7	441	1	0	750	346	0	4	25	0	0	0	0	1574
1975	241	0	0	0	783	0	0	2556	137	0	2	503	0	0	0	0	3980
1976	186	0	0	0	551	3	0	1411	194	0	38	210	0	0	0	0	2406
1977	96	0	0	6	294	0	0	1722	14	0	10	6	0	0	0	0	2051
1978	536	0	0	0	62	0	0	379	66	0	1	15	0	0	0	0	523
1979	860	0	0	5	451	0	0	422	15	0	0	4	0	0	0	0	898
1980	1988	0	0	0	15	0	0	248	20	0	1	59	0	0	0	0[a]	343[a]
1981	591	0	0	0	143	0	0	854	4	0	1	52	0	0[a]	0[a]	0[a]	1054[a]
1982	424	0	0	0	53	0	0	508	10	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	571[a]
1983	180	0	0	0	151	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	151[a]

[a] Incomplete returns from brood year escapement.

Appendix A.16. Nuyakuk River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
1951	0	0	0	0	0	0	0	61	3	0	1	14	0	0	1	0	80
1952	0	0	0	0	7	0	0	150	5	0	3	43	0	0	0	0	208
1953	0	0	0	0	55	0	0	427	6	0	0	1	0	0	0	0	489
1954	0	0	0	0	53	0	0	4	23	0	0	0	0	0	0	0	80
1955	0	0	0	0	52	0	0	10	10	0	0	0	0	0	0	0	72
1956	30	0	0	0	217	0	0	162	0	0	0	0	0	0	0	0	379
1957	67	0	0	0	4	0	0	11	2	0	0	1	0	0	0	0	18
1958	196	0	0	0	93	0	0	307	31	0	0	11	0	0	0	0	443
1959	49	0	0	60	11	0	0	57	3	0	0	9	0	0	0	0	140
1960	146	5	0	8	147	0	0	380	23	0	0	12	0	0	0	0	575
1961	80	1	0	37	37	0	0	317	2	0	0	0	0	0	0	0	394
1962	38	0	0	4	17	0	0	36	0	0	0	2	0	0	0	0	59
1963	167	0	0	26	4	0	0	194	2	0	0	6	0	0	0	0	232
1964	103	2	0	1	17	0	0	51	14	0	0	2	0	0	0	0	86
1965	203	0	0	7	72	0	0	603	36	0	7	54	0	0	0	0	779
1966	161	1	0	2	121	0	0	527	4	0	2	5	0	0	0	0	663
1967	20	0	1	2	9	0	0	64	0	0	0	6	0	0	0	0	83
1968	97	0	0	8	12	0	0	210	0	0	1	6	0	0	0	0	238
1969	70	2	0	23	5	0	1	81	13	0	4	6	0	0	0	0	134
1970	365	0	0	1	98	0	0	717	160	0	1	92	0	0	0	0	1070
1971	224	1	0	17	87	0	0	785	28	0	0	41	0	1	0	0	959
1972	29	0	0	11	49	0	0	295	14	0	47	120	0	0	0	0	535
1973	110	0	0	4	47	0	3	1100	2	0	1	1	0	0	0	0	1156
1974	155	0	0	0	117	0	0	249	7	0	0	0	0	0	0	0	373
1975	670	7	0	3	528	0	0	4494	127	0	4	243	0	1	0	0	5406
1976	425	2	1	35	397	0	0	2941	58	0	41	270	0	0	0	0	3745
1977	233	0	0	17	325	0	1	2114	15	0	188	25	0	0	0	0	2684
1978	577	0	0	0	123	0	0	1167	8	0	4	12	0	0	0	0	1314
1979	360	0	1	0	421	0	0	1020	11	0	3	2	0	0	0	0	1460
1980	3027	0	0	0	126	0	0	502	80	0	16	132	0	0	0	0[a]	857[a]
1981	834	0	0	0	255	0	0	1760	6	0	7	21	0	0[a]	0[a]	0[a]	2049[a]
1982	538	1	1	1	99	1	0	499	3	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	604[a]
1983	319	0	0	0	92	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	92[a]

[a] Incomplete returns from brood year escapement.

Appendix A.17. Snake River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1951	0	0	0	0	0	0	0	2	2	0	0	1	0	0	0	0	5
1952	0	0	0	0	4	0	0	6	0	0	0	0	0	0	0	0	10
1953	0	0	0	0	3	0	0	3	1	0	0	2	0	0	0	0	10
1954	0	0	0	0	12	0	0	9	69	0	0	0	0	0	0	0	90
1955	0	0	0	0	153	0	0	0	0	0	0	0	0	0	0	0	153
1958	9	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
1959	140	0	0	0	68	0	0	7	6	0	0	1	0	0	0	0	83
1960	17	0	0	0	14	0	0	18	1	0	0	0	0	0	0	0	33
1961	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
1971	9	0	0	0	0	0	0	2	17	1	0	3	0	0	0	0	24
1972	2	0	0	0	6	0	0	1	0	0	0	0	0	0	0	0	8
1973	1	0	0	0	8	0	0	3	5	0	0	1	0	0	0	0	16
1974	15	0	0	0	26	0	0	7	1	0	0	0	0	0	0	0	34
1975	10	0	0	0	10	0	0	0	0	0	0	12	0	0	0	0	23
1976	13	0	0	0	0	0	0	22	6	0	0	0	0	0	0	0	28
1977	9	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	16

Appendix A.18. Nushagak-Mulchatna River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1951	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	16
1952	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
1953	0	0	0	37	0	0	2	0	0	0	0	0	0	0	0	0	39
1954	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
1955	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
1962	9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1963	46	0	0	0	0	0	1	53	0	0	0	2	0	0	0	0	56
1964	19	0	0	13	4	0	0	12	2	0	0	0	0	0	0	0	32
1965	28	1	0	13	16	0	0	91	0	0	0	0	0	0	0	0	120
1966	50	2	0	29	0	0	0	0	0	0	0	0	0	0	0	0	31
1967	47	1	0	0	0	0	0	0	0	0	4	3	0	0	0	0	8
1968	32	0	0	0	0	0	8	79	0	0	5	4	0	0	0	0	95
1969	17	0	0	90	0	0	5	2	2	0	0	0	0	0	0	0	100
1970	45	1	0	9	10	1	0	0	0	0	1	6	0	0	0	0	26
1971	58	0	0	0	0	0	0	78	2	0	0	125	0	0	0	0	206
1972	7	0	0	20	7	0	7	291	27	0	0	0	0	0	0	0	351
1973	80	0	0	51	44	0	0	0	0	0	0	0	0	0	0	0	96
1974	30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1981	177	0	0	0	0	0	0	0	0	0	10	29	0	0[a]	0[a]	0[a]	40[a]
1982	63	0	0	0	0	0	0	689	5	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	694[a]
1983	85	0	0	0	126	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	126[a]

[a] Incomplete returns from brood year escapement.

Appendix A.19. Togiak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	2.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	31
1951	0	0	0	0	0	0	0	109	58	0	0	9	0	0	0	0	176
1952	0	0	0	0	168	0	0	58	9	0	0	6	0	0	0	0	241
1953	0	0	0	1	31	0	0	84	8	0	0	16	0	2	0	0	143
1954	0	0	0	0	20	0	0	146	12	0	0	0	17	0	0	0	194
1955	0	0	0	0	136	0	0	0	186	8	1	38	0	0	0	0	369
1956	225	0	0	0	4	104	0	306	22	0	1	13	0	0	0	0	450
1957	25	0	2	9	48	0	0	69	20	0	0	36	1	0	0	0	187
1958	72	0	1	3	68	0	0	115	59	0	0	25	0	0	0	0	271
1959	210	0	0	0	141	0	0	92	55	0	0	7	0	0	0	0	296
1960	163	0	0	3	191	0	0	276	22	0	0	52	0	0	0	0	545
1961	122	1	0	3	85	0	0	216	15	0	1	19	0	0	0	0	340
1962	62	0	0	7	48	0	0	103	4	0	0	8	0	0	0	0	170
1963	116	0	0	2	43	0	0	66	19	0	0	24	0	0	0	0	153
1964	105	0	0	1	43	0	0	84	41	0	0	6	0	0	0	0	175
1965	96	0	0	2	154	0	0	181	31	0	0	37	0	0	0	0	406
1966	104	1	0	6	200	0	0	420	4	0	1	9	0	0	0	0	642
1967	81	1	0	6	18	0	0	99	16	0	1	40	0	0	0	0	181
1968	50	0	0	1	49	0	0	190	6	0	3	13	0	0	0	0	263
1969	117	0	0	5	28	0	0	142	25	0	3	12	0	0	0	0	216
1970	203	0	0	1	54	0	0	226	55	0	1	70	0	0	0	0	409
1971	200	0	0	4	106	0	0	317	62	0	1	68	0	2	0	0	561
1972	79	0	0	2	93	0	0	150	21	0	46	56	0	0	0	0	369
1973	107	1	0	10	151	0	0	378	32	0	1	14	0	0	0	0	586
1974	104	0	0	1	256	0	0	321	22	0	3	45	0	1	0	0	650
1975	181	0	0	4	253	0	0	849	87	0	2	56	0	0	0	0	1251
1976	189	0	0	1	189	0	0	541	142	0	4	162	0	0	0	0	1039
1977	163	0	0	3	253	0	0	637	13	0	3	12	0	0	0	0	921
1978	306	0	1	8	146	0	0	434	66	0	0	18	0	0	0	0	674
1979	198	2	0	1	266	0	0	307	10	0	0	5	0	0	0	0	592
1980	527	0	0	0	43	0	0	228	10	0	1	11	0	0	0	0[a]	293[a]
1981	307	0	0	0	52	0	0	293	6	0	1	16	0	0[a]	0[a]	0[a]	367[a]
1982	289	0	0	0	96	0	0	244	13	0	0	0[a]	0[a]	0[a]	0[a]	0[a]	353[a]
1983	213	0	0	6	265	0	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	0[a]	271[a]

[a] Incomplete returns from brood year escapement.

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